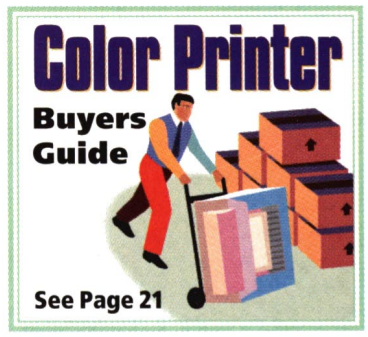
MacWEEK

03.04.96 | *The Newsweekly for Macintosh Managers* | VOLUME 10 NUMBER 9



Mac Visual FoxPro 3 to gain object abilities

Beta users knock speed, stability

By Clifford Colby

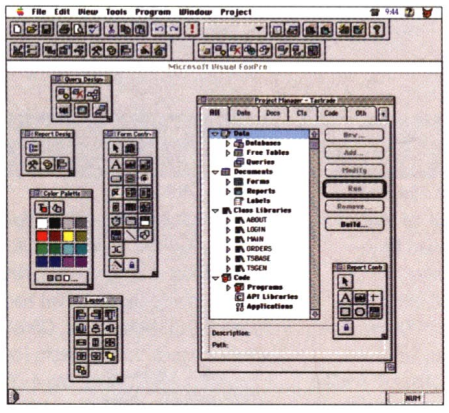
With the release of the Windows version of Visual FoxPro last summer, Microsoft Corp. announced it was turning its attention to the Mac. Now, eight months later, the company said it will ship Visual FoxPro 3.0 for the Mac by midyear.

The Mac version of Visual FoxPro will nearly mirror the features of its Windows counterpart, according to Microsoft. However, developers familiar with both versions said the Mac beta has significant performance problems. "It is much slower than the Windows version," one user said. "It is slow and sloppy." Another developer agreed. "It's a pig, speedwise."

Richardo Wenger, program manager for Visual FoxPro for the Mac, disputed the speed problem. "We are still working on performance on every point before we ship, but I think it is very comparable [to Windows performance]."

Wenger said Microsoft has decided to focus on Power Macs and will drop the 680x0 portion of

See FoxPro, Page 70



Visual FoxPro's new Project Manager will help users track their files, data and documents.

BETA TEST

Cyberdog beta could learn a few new tricks

By Henry Norr

Cyberdog, Apple's forthcoming suite of Internet-access tools, carries a dual burden: It is, by all indications, the centerpiece of the company's yet-to-be-articulated Internet strategy, and, as the first major OpenDoc-based product, it's likely to shape reactions to that technology for years to come.

We are impressed with the first beta of Cyberdog and see the pup's potential but think it has a lot of growing up to do in a hurry if it's to live up to its masters' expectations.

Like most puppies, this one has a big appetite: It requires nearly 9 Mbytes of disk space and almost as much RAM, at least when vir-

See Cyberdog, Page 72

Director, take 5: Xtras, new casts

By Carolyn Said

With a team of new features, an overhauled interface and an open architecture, Version 5.0 of multimedia trouper Macromedia Director will debut at this week's intermediaWorld conference in San Francisco.

The latest version of the authoring program, the first upgrade in two years, will mark Director's adoption of Macromedia Inc.'s new unified user interface and plug-in architecture (see 10.30.95, Page 4).

Director 5.0, due March 31, will also offer built-in formatted and anti-aliased text and will let users import RTF files directly. "Now I don't have to have programmers working inside Director to stylize text," said beta user Rick Steele, president of Meetinghouse Technologies LLC in Annapolis, Md. "I can have editors do that and give it to me at the last minute."

The upgrade will juggle multiple internal and external casts; users will be able to switch casts dynamically via the Lingo scripting language. Beta testers said this feature simplifies collabora-

See Director, Page 70

Macromedia Director will adopt the company's unified interface in Version 5.0.

Adobe builds on strengths

By Kristin Balleisen and Jon Swartz

Company Report Card

After gobbling up Aldus Corp. two years ago, Adobe Systems Inc. is discovering that melding operations with Frame Technology Corp. and Ceneca Communications Inc. is a bit more ticklish. The new acquisitions take the Mountain View, Calif., company outside its traditional role as a publishing giant and into the role of a major provider of Internet tools.

By most accounts, the strategy is going well. According to International Data Corp. of Framingham, Mass., Adobe is the world's third-largest software company, after Microsoft Corp. and Novell Inc. But the last two mergers haven't come easy, resulting in steep restructuring costs and some confusion over the respon-

See Adobe, Page 70

REPORTER'S NOTEBOOK

Amelio takes stage, Web stars at Seybold

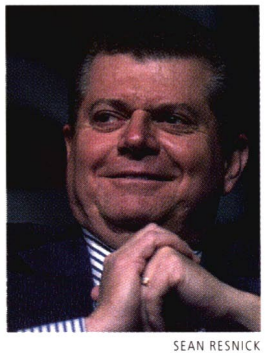
By Kristin Balleisen and Kelly Ryer

One of the most talked-about sightings at Seybold Seminars Boston 96 this week was not a product but new Apple CEO Gilbert Amelio. The opening keynote was his first major tradeshow appearance as Apple's chief, and Amelio frankly identified the company's problems and outlined his fix-it list.

He promised to get back to manufacturing and design basics, restore employee pride without "crossing the line into arrogance like we have in the past," listen to users rather than blindly follow Apple traditions, simplify the CPU product line, improve time to market, and build on key Mac markets rather than focusing exclusively on market share. Amelio also said he plans to reduce Apple's internal complexity, which he likened to "uncontrolled urban development."

Attendees welcomed this nuts-and-bolts approach. One listener, who declined to give his name, said, "It's like Apple had a party, and then Dad came home."

See Seybold, Page 72



SEAN RESNICK

Gilbert Amelio outlined his Apple fix-it list at Seybold.

Specular suite to bring depth to Web pages

By James Staten

Specular International Ltd. is building an application suite to simplify bringing 3-D and animation to the Web.

Off the show floor at last week's Seybold Seminars Boston 96, the company demonstrated a product code-named Fireball that adds animated 3-D elements and textured backgrounds to Web pages.

Due in May for about $300, Fireball will consist of Web-optimized versions of LogoMotion, Specular's $179 3-D rendering and animation package; TextureScape, its

See Specular, Page 70

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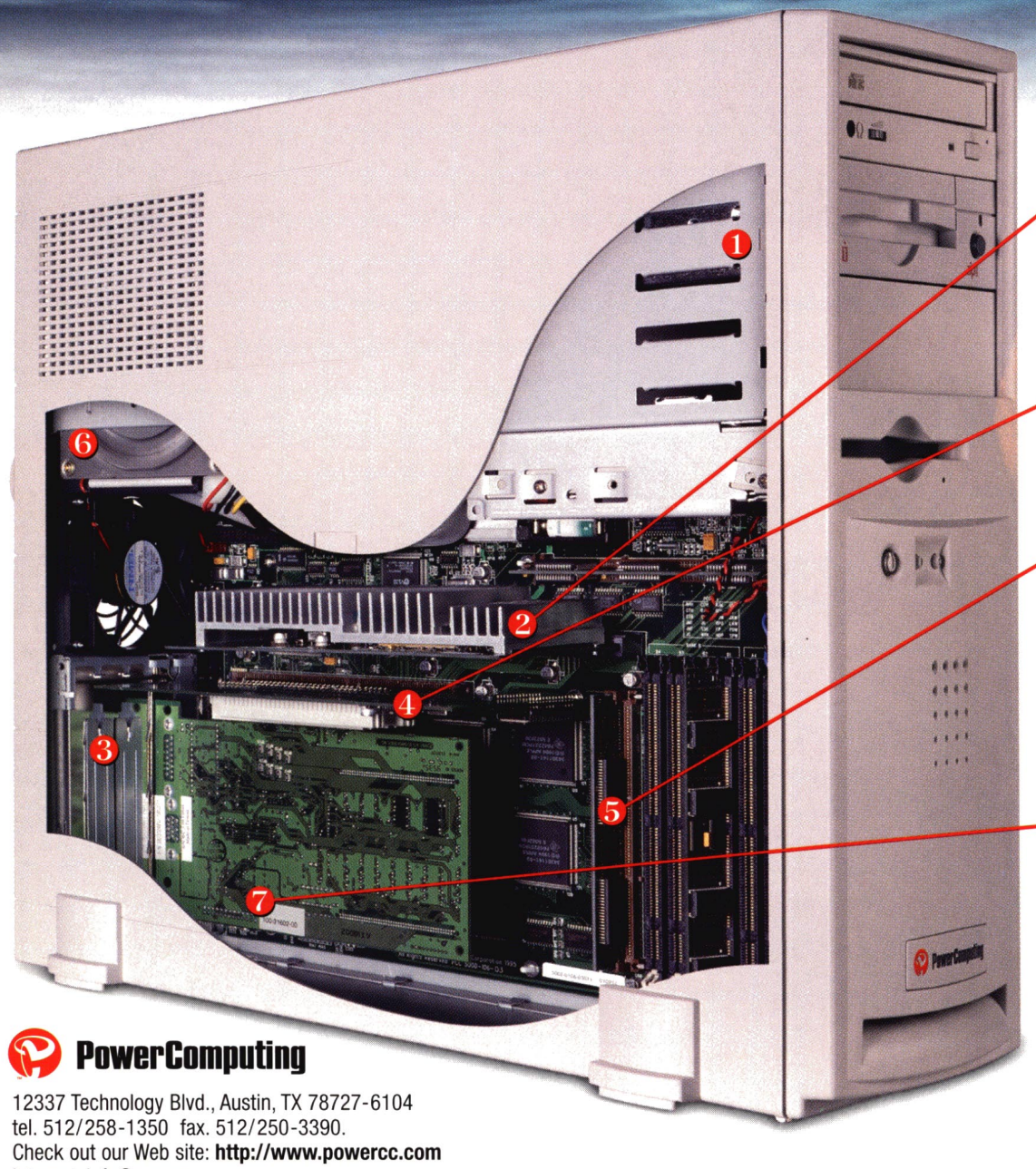

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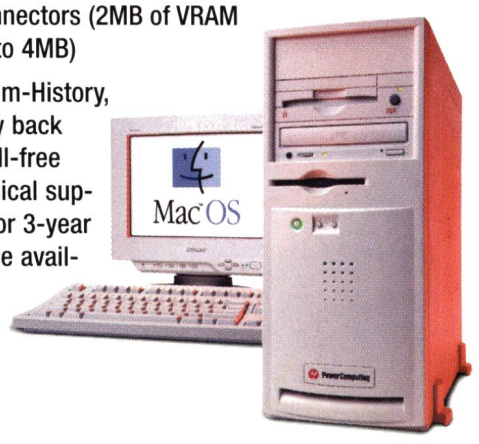

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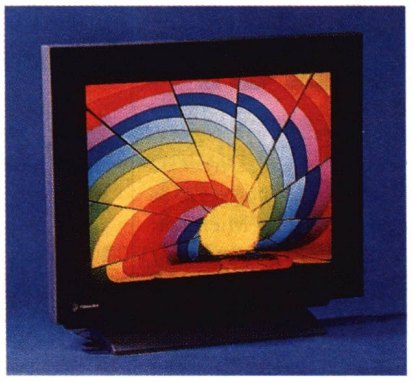

Plasma technology heralds a bright future with large screen, small footprint and light weight. See News, Page 6.

PC Cards have expanded their list of functions, and users seem excited by what the future holds. Still, they are wary of how well the cards really perform. See Solutions, Page 37.

Six times the fun: Pantone's Photoshop plug-in generates six-color separations for its Hexachrome color system. See GA, Page 10.

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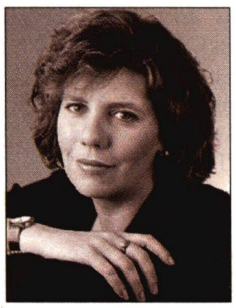
MACWEEK INSIDER CAROLYN SAID

Virtual worlds on horizon

A virtual 3-D universe not unlike the Metaverse, the on-line realm in Neal Stephenson's novel "Snow Crash," is coming soon to the Web.

The past few months have been replete with announcements of advances in 3-D. While the Mac market has never lacked for 3-D creation applications, until now distribution of 3-D objects and animations, with their concomitant demands for disk space, RAM and high-resolution display, has primarily been as elements in CD-ROM games or multimedia presentations. The Web offers a compelling new arena to showcase and deliver 3-D.



Apple last week announced QuickDraw 3D RAVE (Rendering Acceleration Virtual Engine), an API that will allow Mac, Windows 95 and Windows NT developers to write software that can transparently access 3-D accelerators or, in the absence of hardware accelerators, to use RAVE's built-in software acceleration and texture mapping. By enabling developers to create extremely fast 3-D software, RAVE's obvious near-term use will be for CD-ROM and disk-based games; the API will be out by March, just in time for developers targeting Christmas 1996. Microsoft Corp. countered with its own 3-D API, Direct3D, although its delivery date for the Mac is further off and may never happen, given the company's history.

Beyond the existing game sector, RAVE will also help improve users' experience with on-line 3-D objects. While the API can't address the bandwidth issues that choke Internet 3-D, users' local access to hardware or software acceleration will still improve their interaction with Web-based 3-D environments, once they are downloaded.

Meanwhile, computer companies, including Apple, are working to take an end-run around bandwidth limitations. Proposals on the floor for Version 2.0 of Virtual Reality Modeling Language (VRML) confront the issues of 3-D file size and portability. The Moving Worlds proposal from Silicon Graphics Inc. and Netscape Communications Corp., which has won endorsement from more than 50 companies, describes a way of attaching behaviors to 3-D models — for example, having a car drive around a virtual 3-D scene. A high-level standard for on-line 3-D would let multiple users meet and interact on-line in 3-D virtual worlds; once each person has downloaded the basic 3-D model, they would need only to exchange telemetry information, concise mathematical equations describing their locations.

The Web offers a compelling new arena to showcase and deliver 3-D.

Apple's proposal to incorporate its 3DMF (3-D metafile format) as part of VRML 2.0 actually dovetails quite nicely with Moving Worlds and other proposals, according to Shawn Hopwood, Apple 3-D graphics evangelist, because it offers a way to put 3-D information in a compressed binary format that can be streamed across the Internet. "We're basically proposing the container for VRML 2.0," Hopwood said. "Whatever standard [the VRML Architecture Group] chooses, we have a way to make it compact and streamable."

Another plus for incorporating 3DMF into VRML 2.0, according to Apple, would be giving users the ability to copy and paste 3-D objects from the Web into their desktop applications, thus bridging the gap between the Internet and the desktop.

Plenty of smaller third-party developers are also helping to make Web 3-D a reality. Specular, for example, is packaging some of its 3-D technology with optimizing tools to make an Internet 3-D creation suite. James Staten, who writes about it on Page 1, told me it's like "Kai's Power Tools for Adobe PageMill." Strata Inc. and Virtus Corp. were quick to the forefront in offering VRML export in their 3-D applications, while Template Graphics Software Inc. and programmers Bill Enright and John Louch led in offering VRML browsers for the Mac.

Let's just hope that our nonfiction Metaverse doesn't get populated by the same kind of punk renegades in the "Snow Crash" dystopia. □

Carolyn Said is MacWEEK news editor. She welcomes feedback at carolyn_said@macweek.com.

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3-D graphics APIs duel

By Matthew Rothenberg

Apple and Microsoft Corp. last week faced off with competing APIs for hardware acceleration of 3-D graphics.

Apple unveiled QuickDraw 3D RAVE (Rendering Acceleration Virtual Engine), which will be available as both driver and software development kits for hardware vendors and software developers. RAVE will ship for the Mac OS and Windows 95 this month and for Windows NT early in the second quarter, the company said.

According to Apple, RAVE, which was originally code-named Tinseltown (see 10.23.95, Page 84), comprises an optimized version of the hardware abstraction layer in QuickDraw 3D. The technology will let cross-platform developers of games and graphics applications access 3-D hardware directly; it will also provide software rendering in the absence of hardware accelerators.

RAVE will support 3-D displays at Super VGA or higher resolutions, optimize rendering, and permit texture mapping at up to 4,000 by 4,000 pixels with a resolution of up to 32 bits per pixel, Apple said. Games that use the API will not require Z-buffering.

Apple announced support for RAVE from a number of graphics board vendors and chip makers, including DayStar Digital Inc., Newer Technology Inc., Number Nine Visual Technology Corp., Matrox Graphics Inc., ATI Technologies Inc. and Radius Inc.

Meanwhile, Microsoft announced its own API, dubbed Direct3D, which joins the company's DirectX line of interactive media technologies. According to the Redmond, Wash., company, a final version of the Direct3D SDK will ship for Windows 95 in the second quarter. Microsoft said it will offer DirectX for Power Macs and Windows NT by year-end.

Microsoft cited a list of 80 developers that endorsed its technology; besides most of the companies cited by Apple, Microsoft's list included companies such as NEC Electronics Inc., 3DO Co. and IBM Corp.

Analysts said they expect a new crop of 3-D accelerators, priced as low as $200 to $300, to hit the market before the end of the year. □

Apple recalls some early PowerBook 5300 models

By Joanna Pearlstein

PowerBook 5300 woes continued in February as Apple recalled a batch of units from dealer inventory, sources said.

A February letter to dealers reportedly announced the PowerBook 5300 Reseller Exchange Program, recommended for PowerBook 5300 units shipped on or before Nov. 12, 1995, and with serial numbers beginning with FC545 or lower.

In the letter, Apple said that affected machines experienced a problem during intense use of both a PC Card and the floppy drive or other expansion-bay devices. Under those circumstances, the units might draw too much power, causing the PowerBook to lock up. The problem does not affect the PowerBook 5300ce, which shipped in December.

Apple spokeswoman Kristin Brownstone said the company could not comment on communications with dealers, but noted: "I can tell you that we do from time to time exchange older products for newer ones. If customers are experiencing problems, they are covered under warranty and should call the Apple Assistance Center."

Dealers said they were unfazed by the recall. One Apple dealer said he was not surprised, adding that his store does not keep 5300 machines in inventory. "We're not finding any reason to stock up on them. They haven't been selling," he said. □

New Apple CAO

New CEO Gil Amelio reached into the executive pool he built at National Semiconductor Corp. last week to bolster his recovery team at Apple.

National Semi Executive Vice President George Scalise will leave his post March 8 to become chief administrative officer at Apple.

Scalise, 62, has been at National Semi since 1991. Previously, he was chief executive officer at disk drive maker Maxtor Corp. of San Jose, Calif. □

AT&T provides free Net access

By James Staten

AT&T Co. took the offensive last week in the Internet service provider market by offering its long-distance customers free access to the Internet for a year.

The offer is a promotional effort for The AT&T WorldNet Service, which provides Internet access through the long-distance giant's nationwide network.

The offer will give current AT&T long-distance customers five free hours of Internet access per month for 12 months. An alternate plan will provide unlimited access at $19.95 per month for the first year.

Non-AT&T subscribers will be able to use WorldNet for slightly higher rates: $4.95 per month for three hours of access or $24.95 per month for unlimited access. Additional hours in the starter plans are priced at $2.50 each.

WorldNet will be available to Windows users starting March 14; Mac support will be offered a couple of months later, the company said. Subscribers will receive Netscape Communications Corp.'s Navigator 2.0 Web browser.

Access will initially be provided through a fleet of 200 local 28.8-Kbps points of presence covering 80 percent of the U.S. population, AT&T said. Toll-free access will be $4.50 per hour.

AT&T Co. of Basking Ridge, N.J., can be reached at (800) 967-5363; worldnet@attmail.com; http://www.att.com/worldnet. □

Now Utilities update to add macro creation

Version 6.0 to get tabbed windows

By Joanna Pearlstein

Now Software Inc. will add automatic typing and tabbed windows to the sixth incarnation of its utilities suite.

Due to ship March 29, Now Utilities 6.0 will include three new components: Now AutoType, Now Shortcuts and Now Tabs. Now AutoType will automatically create macros for frequently typed words and phrases; macros will be triggered by typing a keystroke.

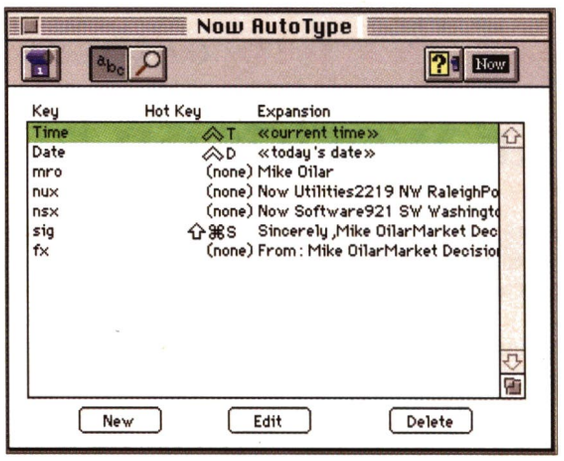
Now Shortcuts will provide shortcuts to common Finder functions, such as duplicating files, changing labels and setting file-sharing privileges.

Now Tabs will place a tab bar at the bottom of a user's screen; users will be able to drag Finder windows to Now Tabs and access those items from the tab bar. Both Now AutoType and Now Tabs will have an open API that third parties can use to develop add-ons.

Also updated are Now Super Boomerang, which will include hierarchical menus in Open and Save dialog boxes, and Now Folder menus, which will display the contents of nested folders up to 10 deep.

Now Utilities will have a list price of $129.95; upgrades will cost $29.95. The company said Now Utilities 6.0 will be the last version shipped before Now Utilities for Copland.

Now Software Inc. of Portland, Ore., can be reached at (503) 274-2810 or (800) 689-9427; fax (503) 222-0555; info@nowsoft.com; http://www.nowsoft.com. □



Now AutoType, a new feature in Now Utilities 6.0, will automatically create shortcuts for frequently typed words and phrases. Users can edit those shortcuts in the Now AutoType control panel.

Adobe to link PostScript fonts to Web pages via HTML 3 spec

By James Staten

Adobe Systems Inc., Netscape Communications Corp. and Apple plan to give Web designers better font control. Last week the three companies said they are working on an open HTML 3.0 spec for embedding TrueType and Type 1 PostScript fonts in Web pages.

The proposed technology would let designers specify high-quality, anti-aliased type in their Web creations. Only the characters used in the pages being viewed would be downloaded. The fonts would render progressively, so users could read the rough text immediately while waiting for higher-fidelity versions to arrive.

Acceptance of the font proposal is not a given, however, despite the companies behind it. Microsoft Corp. is touting a competing standard for delivery of TrueType fonts over the Internet, and Bitstream Inc. has thrown its hat in the on-line font ring. Analysts noted that Microsoft's and Bitstream's proposals are not open standards, which could give the Adobe-led trio the advantage. □

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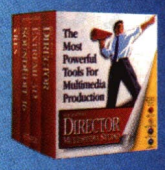

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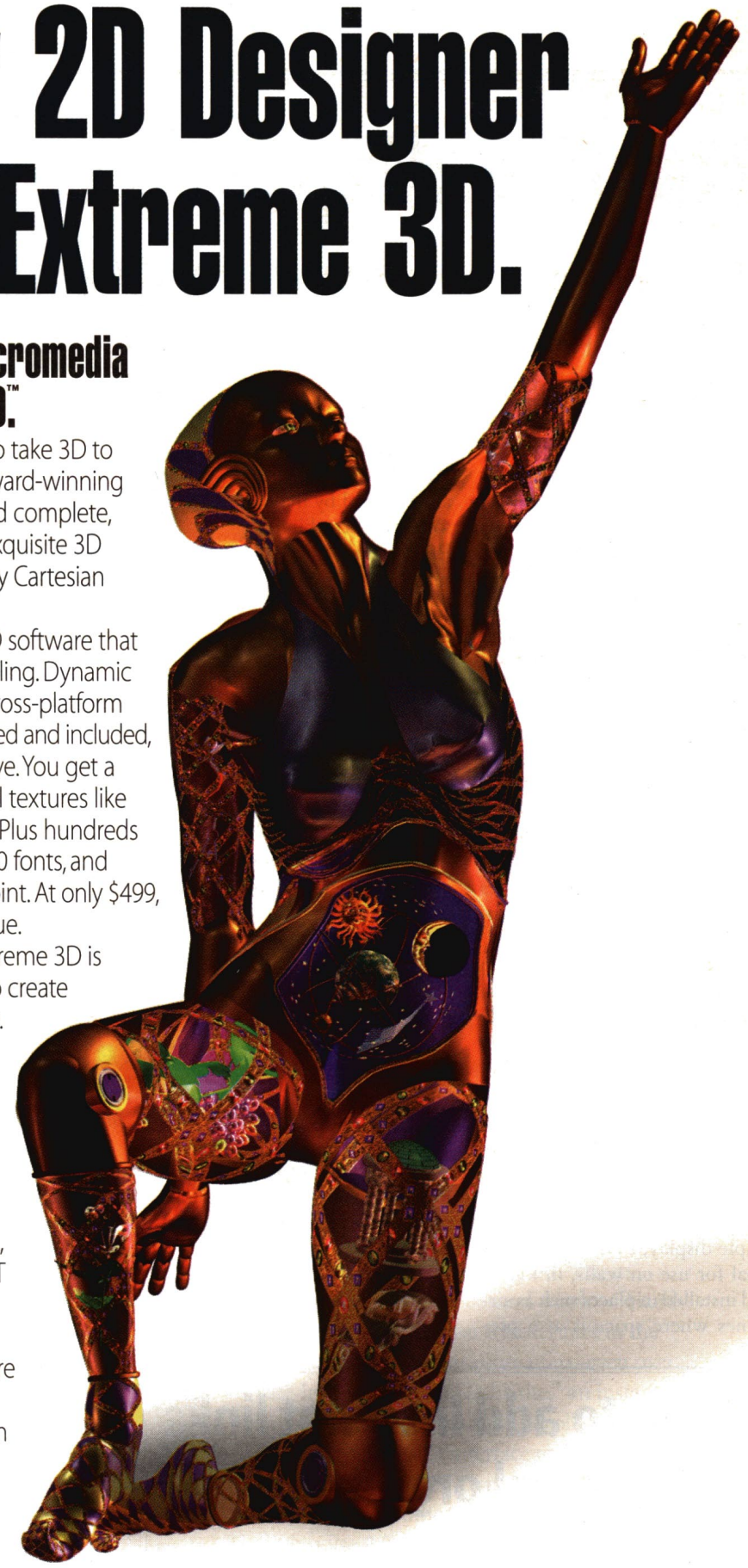

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Plasma displays return

Monitor giants prep color panels for walls, kiosks

By Joanna Pearlstein

Plasma, a display technology previously eclipsed by CRT and LCD display technologies, has recently gotten a shot in the arm from a series of announcements by monitor vendors.

Most recently, four major monitor vendors — Fujitsu Microelectronics Inc. of San Jose, Calif.; Mitsubishi Electronics America Inc. of Cypress, Calif.; NEC Electronics Inc. of Mountain View, Calif.; and Sony Corp. of Tokyo — have revealed plans for color plasma display panels (PDPs). In February, NEC announced its plasma plans; other companies have shown prototypes at Comdex and Macworld Expo.

Heralded for their large screen size and small footprint, plasma displays were originally available in monochrome only, but vendors have now managed to add color. PDPs use gases placed between two glass panels; when activated with electrons, the gases produce ultraviolet rays that stimulate red, green and blue phosphors.

By being small, yet offering an ample display, PDPs are seen as ideal for use on walls, in kiosks and installed in places such as airplanes where space is at a premium. More than 1,000 of Fujitsu's 21-inch PDPs have been installed at the New York Stock Exchange.

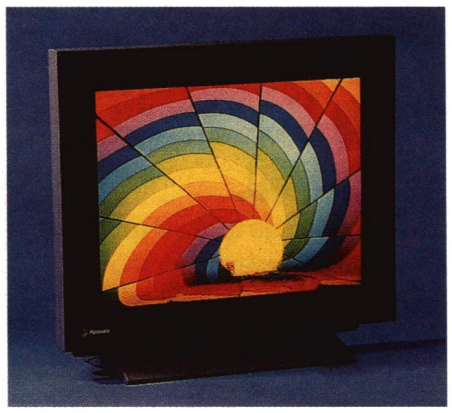
Currently, most PDPs support resolutions of 640 by 480 pixels, but resolutions of 1,024 by 768 pixels are expected by the time some products ship. Most PDPs cannot display as many colors as CRT monitors, so they may not be appropriate for graphics professionals who require 24-bit color.

Like LCD displays, PDPs are normally a few inches thick and weigh far less than CRT monitors: While a 35-inch CRT weighs about 240 pounds, a 42-inch PDP will weigh about 80 pounds. PDPs are also less expensive to manufacture than LCDs.

"What we can give users with plasma is an incredibly small footprint and a very large screen," said Thomas H. Paterniti, senior manager of product marketing at Mitsubishi's systems and peripherals division. "These could literally hang on the wall or be inlaid into somebody's desk."

Most vendors developing PDPs are planning large-size displays that will be targeted at markets beyond the desktop.

- **Fujitsu's** 42-inch PDP will go into volume production in October; it is expected to cost $5,000.



Plasma displays, like this 21-inch panel from Plasmaco, can be used in kiosks or for presentations. This panel displays 16.7 million colors, is 1.4 inches thick and weighs less than 20 pounds.

- **Mitsubishi** said it plans to demonstrate a production unit of its 40-inch PDP in the fourth quarter of this year, possibly at the fall Comdex; the company also has privately demonstrated a 20-inch panel. The 40-inch PDP will cost about $10,000.
- **NEC** said it expects to have production units of its 33-inch panel in late summer or early fall; it, too, will cost about $10,000. NEC has also demonstrated a 40-inch display and plans PDPs ranging from 20 to 60 inches.
- **Panasonic Communications and Systems Co.** of Secaucus, N.J., has shown a prototype 27-inch PDP at trade shows but has made no formal announcements about future products.
- **Plasmaco Inc.** of Highland, N.Y., recently acquired by Matsushita Industrial Electric Co., plans to ship a 21-inch PDP late this fall. The device, which will display 16.7 million colors and weigh under 20 pounds, will cost about $8,000.
- **Sony's** upcoming 25-inch Plasmatron television is based on plasma-addressed liquid-crystal technology co-developed with Tektronix Inc. The product will be introduced in Japan this fall; plans for U.S. distribution and pricing have not been set.

Representatives from Fujitsu, Mitsubishi and Sony said they expect prices will drop to about $100 an inch, or $4,000 for a 40-inch display, by 1998.

"Plasma technology has just taken off," said Jon Peddie, president of Jon Peddie Associates, a research firm in Tiburon, Calif. "[The displays] made a really big jump, and it's impressive. The only criticism I have is that they only display VGA resolution. There are going to be a lot of neat applications for the displays. I want one." □

Attain to add Internet links to In Control organizer

By Joanna Pearlstein

Attain Corp. will this month add Internet links and drag-and-drop support to its organizer software, In Control 4.0.

Version 4.0 will let users link Internet sites to items and connect directly to that site from In Control. The product will support Internet Config, a utility that centralizes preference settings for a variety of Internet applications. Users will be able to import Internet bookmarks, organize them within In Control and then export them to a Web browser.

The product's new Clip-It feature will let users copy text from any application into an In Control document by typing a keyboard combination. Item attributes, such as dates, reminders, fonts and styles, can be changed in an Item Info dialog box.

Attain said the new version will launch up to 30 percent faster than the previous version. In Control 4.0 will have several new scheduling tools, including Reschedule and Move Item commands, drag-and-drop, easier management of recurring items, improved networking and notification, and more style settings.

Attain said In Control will have a street price of about $85; upgrades are $34.95.

Attain Corp. of Somerville, Mass., can be reached at (617) 776-1110 or (800) 925-5615; fax (617) 776-1626; info@attain.com; http://www.attain.com. □

Users, developers form Apple support groups

By David Morgenstern

In the wake of recent Apple troubles, developers and users are looking to take a more active role in influencing the company and its press relations.

A group of Mac developers in February formed the Association of Independent Macintosh Engineers and Developers. Based in Los Angeles, the new trade association said it will communicate Mac market information to the press, direct developer concerns to Apple and inform members of new market opportunities.

"We're going to let the world know in no uncertain terms that Mac developers are not going away," said Steve Cunningham, marketing director at 360 Systems Inc. of Los Angeles and AIMED secretary-treasurer. He said the association would use its Web site at http://mcf.com/aimed/ to connect with developers worldwide and has already signed up more than 100 members in a week. "The public needs to know that the Mac is a safe buy with lots of cool software," Cunningham said.

Users are also moving forward with plans to nudge Apple's direction: Several groups recently formed to organize small-scale owners of Apple stock.

The Concerned Silicon Valley Engineers Who Use Macs group is made up of about 20 San Francisco Bay area users. The group said it hopes to advise Apple's board of directors, offer ballot submissions at shareholder meetings and collect stock proxies; it has collected the names of more than 1,000 stockholders by e-mail.

"Mac user-owners want to have a meaningful proxy that's going to do something for them," said Mark Moore, an aerospace engineer at the NASA Ames Research Center in Moffett Field, Calif. Moore said the group will set up a Web site and work with Mac user groups to increase participation.

Another user-inclined effort is Angels for Apple, a program of stock ownership organized this month by Chicago-based Elan Associates, publishers of MacGuide.

"Perhaps it's my Boy Scout-civics training," said MacGuide Publisher Daniel Kegan, who urges Mac users to purchase several shares of Apple stock. "A user voice may ground and balance Apple management." □

MultiClip syncs with System 7

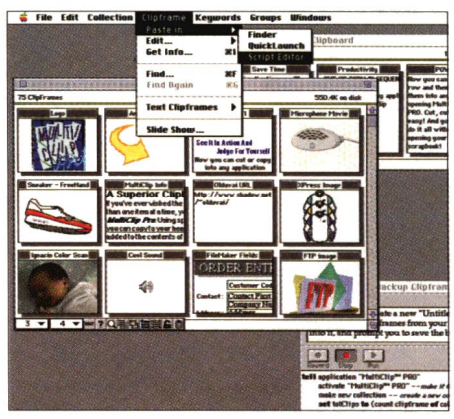
By Matthew Rothenberg

Nearly three years after it released Version 3.0, Olduvai Corp. has released MultiClip Pro 3.5, a beefed-up version of the company's Scrapbook replacement.

The $149 utility now includes native software for Power Macs and 680x0-based models. In addition, it adds support for System 7 Drag and Drop and AppleScript, Olduvai said.

MultiClip Pro 3.5 lets users group sets of clips, then paste them with a single command. Users can resize clip frames by clicking and dragging. The upgrade also features a Launch at Start up command and improved slide-show capabilities, Olduvai said.

Besides data from the Mac Clipboard, Version 3.5 lets users import JPEG graphics as well as any files accessible via XTND translators.



Boasting Power Mac software and System 7 features, MultiClip Pro 3.5 lets users organize sets of clips into groups, then paste them with a single command.

MultiClip Pro 3.5, which requires System 7, will be available from Olduvai for an introductory price of $59 through April 15. The company also rolled out MultiClip Lite, a $19 version of the software that supports System 6 and System 7.

Olduvai Corp. of Miami is at (305) 670-1112; fax (305) 670-1992; olduvaigy@aol.com. □

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3M SPINS OUT PRINT

3M Corp. has announced plans to spin off its printing and publishing division as a new, publicly owned company.

New Tally inkjet aims at desktop

By Kristin Balleisen

Moving from the high end to the desktop, Mannesman Tally Corp. is reportedly angling for a piece of the color printing market with a poster-size inkjet device.

Sources said the T7070, which the company demonstrated at last week's Seybold Seminars Boston 96, is slated to ship in May for $2,025. The price will include an Adobe PostScript Level 2 software RIP, a Mac driver and a parallel-to-Mac serial converter.

The CMYK printer will support pages measuring up to 17 by 23.3 inches. It will accommodate manual-fed cut sheets up to 17 inches wide. Optional C-sized, 100-sheet bins will reportedly be available from the company. The device will be able to output monochrome and color prints at 720 and 360 dpi, respectively.

The device will reportedly offer a fine-print mode that generates photorealistic output with reduced banding; it will also include high-speed, high-quality and draft modes, sources said.

The T7070 will be able to rasterize and output seven full-size monochrome pages per minute in draft mode, while a four-color image will take about 30 minutes.

The inkjet will be able to produce full-size color posters at a 50 percent to 70 percent dot density at a cost of about $5 per sheet. Sources said it will also use lightfast, fade-resistant inks. The printer will support a variety of media, including plain and

See Tally, Page 10

EFI warming up Fiery upgrade

By Kristin Balleisen

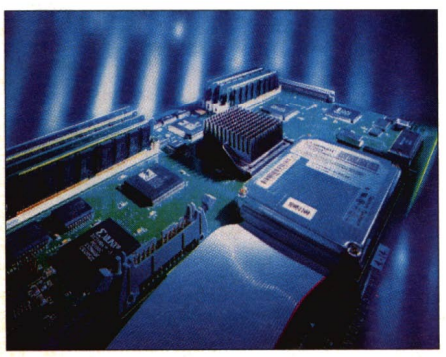
Electronics for Imaging Inc. of San Mateo, Calif., will add fuel to the RIP fire with the latest upgrade to its server software.

Version 3.0 of the Fiery XJ Color Server Software, which debuted at Seybold Seminars Boston 96 last week and will be available free through OEMs this spring, includes new features for pre-press users.

EFI said the new version adds support for color trapping and overprinting; QuarkXPress users will also gain the capability to merge Desktop Color Separation files. The upgrade will enable users to calibrate their devices to SWOP (Specifications for Web Offset Publications), Euroscale and DIC ink standards, the company said.

Print-for-pay sites will be able to take advantage of AutoCal calibration and two user-definable note fields for reports on individual jobs. The upgrade will also support Mark/Space Softworks' PageNow! paging software to alert operators of copier errors. It will include support for multiple output devices, including wide-format printers.

Version 3.0 will extend the software's compatibility with IPX networks and will add an option for token ring, the company said.



The new EFI Fiery server software will add a spectrum of features for pre-press users.

In addition to the copiers already supported, the software upgrade will add support for Minolta Corp.'s forthcoming CF900 (see 02.19.96, Page 1).

In other news, EFI announced support for Adobe Systems Inc.'s new Supra production-printing architecture, also announced at Seybold.

PosterWorks 4.0 offers users new controls over the individual panels that make up documents measuring up to 10,000 square feet.

PosterWorks thinking big in latest upgrade

By Matthew Rothenberg

S.H. Pierce & Co. this month is slated to deliver Version 4.0 of PosterWorks, its software for creating and printing documents measuring up to 10,000 square feet.

Besides adding a native Power Mac version, the upgrade to the $495 package includes new tiling and color-management options as well as on-line help and an enhanced interface, the company said.

Like Version 3.0, PosterWorks 4.0 lets users create oversize documents by generating multiple panels and importing EPS, TIFF and Scitex graphics. It supports variable-sized tiles; users can

See PosterWorks, Page 10

Fractal scoops up Ray Dream in stock trade

By Jon Swartz

Fractal Design Corp. in February added to its palette of graphics software by nabbing 3-D specialist Ray Dream Inc. in a stock deal worth about $47 million.

The deal, which industry observers said will fill one of the few gaps in Fractal's graphics lineup, is expected to help turn 3-D from a cutting-edge technology into a mainstream tool.

"[3-D] has become a viable tool for artists and graphic designers," said Steve Guttman, Fractal vice president of marketing. Increased processing power has brought personal computers up to speed for 3-D tasks, a Fractal official said.

The combined company, which is expected to lay off a handful of its 105 employees, will be based near Fractal's Aptos, Calif., headquarters. The Mountain View, Calif., home office of Ray Dream will be maintained for the time being. Mark Zimmer, chairman and CEO of Fractal, will retain his titles, and Ray Dream CEO Eric Hautemont will become president. □

PhotoPrint has designs on signs

By Matthew Rothenberg

Throwing everything but the kitchen sink into a single package, Amiable Technologies Inc. last week unveiled PhotoPrint Designer, a software suite that combines a variety of graphics capabilities with a proprietary PostScript Level 2 interpreter.

The $4,799 package, which debuted at Seybold Seminars Boston 96 and is slated to ship this month, features scanning, image-editing, page-layout and typographic tools, the company said. It is based on software used in FlexiSign Pro, Amiable's $4,999 sign-making suite, but lacks that package's vinyl-cutting features.

The package supports Adobe Photoshop scanning plug-ins as well as the Twain standard, the company said. PhotoPrint users can also place a variety of image formats into their layouts, including PICT, TIFF, EPS, Photo CD and JPEG.

Typographic controls include automatic kerning and adjustments to kerning pairs as well as automatic arcing of text. Users can also copy and apply styles and spell check text. PhotoPrint lets users generate a variety of shadow effects; inlines and out-

See PhotoPrint, Page 10

Omnibus design vehicle: PhotoPrint Designer packs scanning, image-editing, page-layout and typographic tools alongside a PostScript Level 2 interpreter.

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John Lund
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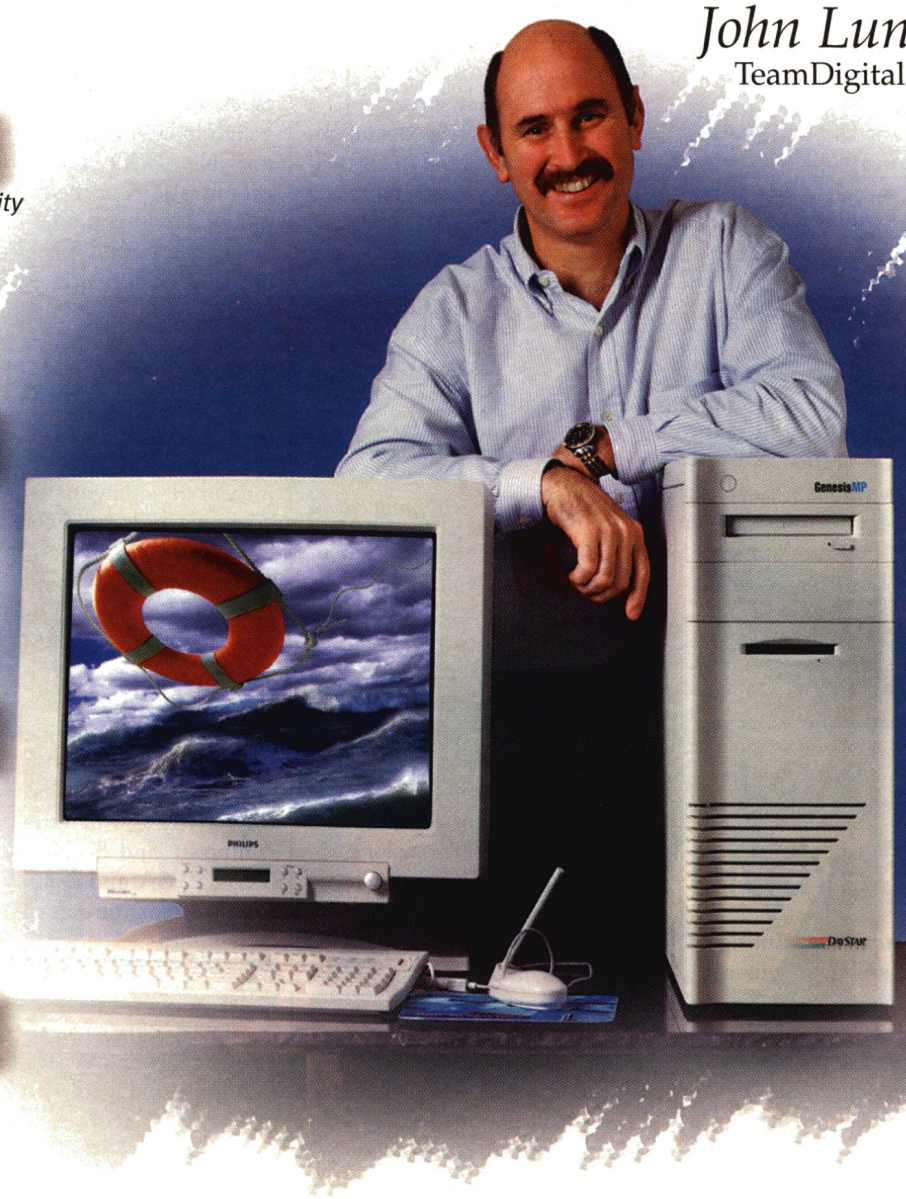

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Extensis readies XTensions

Suite for XPress manages docs

By Rick LePage

Beefing up its base of plug-in tools for graphics applications, Extensis Corp. announced a new suite of XTensions for QuarkXPress at last week's Seybold Seminars Boston 96.

QX-Assistant for Macintosh, slated to ship in May for $99, will include nine XTensions designed to improve productivity when performing basic layout and typographical tasks in XPress.

Extensis groups the package's components into two categories: general enhancement utilities and document-management tools. The centerpiece of the first group will be FineTune, which consists of four floating palettes that will let users manipulate the attributes of text and objects with the mouse rather than numerically via dialog boxes.

Two of the XTensions will apply attributes globally to text or graphical objects. FindChange will perform this function in a traditional search-and-replace manner, while CopyStyle will copy the attributes of a selected object and apply them to others.

The other productivity aids in QX-Assistant include AutoType, which will correct misspelled words, expand abbreviations as they are typed and apply capitalization; Nudge, a palette for quickly adjusting the location of objects; and PowerLock, an enhanced version of XPress' Lock command that will lock the content of an object.

QX-Assistant will also include three document-management XTensions: PowerPrefs, which will extend XPress' Preferences options; DocStyles, which will let users create default document settings; and Log, which will track file activity and export a report that can be used for client billing.

Extensis Corp. of Portland, Ore., can be reached at (503) 274-2020 or (800) 796-9798; fax (503) 274-0530; http://www.extensis.com. □

Pantone, Colossal unveil six-color wares at Seybold

By Kelly Ryer

Adding a new twist to color management, Pantone Inc. last week rolled out HexWrench, a plug-in for Adobe Photoshop that generates six-color separations for Pantone's Hexachrome color system.

The plug-in, shown at Seybold Seminars Boston 96, will offer onscreen proofing of Hexachrome separations. It will let users of Photoshop or compatible graphics applications manipulate orange and green channels as well as the usual CMYK channels.

Developed by New York-based Studion Soft Industries Ltd., HexWrench uses AeQ (Appearance Equivalency) technology from Light Source Computer Images Inc. of Larkspur, Calif. Pantone said it will distribute the plug-in.

According to Pantone, HexWrench will ship in late June for $499.

Meanwhile, Colossal Graphics Inc. gave demonstrations at Seybold of a system for printing six colors on standard four-color inkjet printers.

According to Colossal, the C6 Hi-Fi Digital Color System technology is capable of simulating Hexachrome by replacing the black cartridge on Lexmark International Inc.'s Color Jetprinter 2070 four-color inkjet printer with a cartridge dispensing black, orange and green.

The company said that the system, which consists of cartridges and a driver, will be available in the second quarter for less than $1,000. Colossal said it is currently pursuing an official licensing agreement for the package with Pantone.

Pantone Inc. of Carlstadt, N.J., can be reached at (201) 935-5500 or (800) 222-1149; fax (201) 896-0242; http://pantone.com.

Colossal Graphics Inc. of Palo Alto, Calif., can be reached at (415) 858-2993 or (800) 225-4726; fax (415) 858-2994; rljcgi@aol.com. □

New twist on color: HexWrench lets Photoshop users manipulate orange and green channels in addition to CMYK.

PhotoPrint

From Page 8

lines; and gradient, even, radiant and circular striping.

Image controls include photomasking; automatic posterization; rotation and mirroring effects; gradient, pattern and striped fills; drawing tools; features for shape creation and distortion; and autotracing. Color-management features include color layer control and welding as well as color trapping and stroke creation. PhotoPrint also features color models for most inks and media. A $799 color-calibration module that includes a spectrophotometer and a color chart lets users create color profiles for their output device.

PhotoPrint will be available for Power Macs and 680x0-based models as well as for Windows 95 and Windows 3.1. A package that lacks the graphic design features costs $1,999.

Amiable Technologies Inc. of Philadelphia can be reached at (610) 521-6300 or (800) 668-1920; fax (610) 521-0111. □

Lightware projector targets mobile users

By Matthew Rothenberg

Start-up Lightware Inc. will weigh in later this month with a portable LCD projector that promises to ease the burden for mobile Mac presenters.

The 9.4-pound ViewPoint, to be priced at $6,500, uses a 24-bit-color, 640-by-480-pixel LCD panel and a 400-watt halogen lamp. According to Lightware, the device outputs 270 lumens, allowing it to project images up to 200 inches measured diagonally. The lens folds away for transport.

The ViewPoint supports NTSC, PAL (European) and SECAM (French) video standards and permits users to display their presentations on both a monitor and the screen simultaneously. It also handles composite and S-video, VGA, VESA, and input.

ViewPoint's on-screen functions include enlarge, freeze-frame, curtain, help and pointer commands.

The projector comes with built-in stereo speakers and a 3-watt amplifier plus audio-out ports. An infrared remote control is also included.

Lightware Inc. of Beaverton, Ore., can be reached at (503) 641-7873 or (800) 255-9469; fax (503) 626-8439; larryj@lightware.com. □

Lightware's ViewPoint projector weighs less than 10 pounds but outputs 270 lumens and can project an image up to 200 inches diagonally.

Tally

From Page 8

coated paper, overhead transparencies, and textiles.

The T7070 will also come bundled with a CD-ROM containing 250 TrueType and PostScript Type 1 fonts.

Tally is reportedly planning to aim the new inkjet at professional sign and poster makers; the company will also angle for color proofers and short-run printers.

According to sources, flat margins in the high-end output market prompted the company to offer the new color printer, which will be the first of several midrange color products bearing the Mannesman Tally name. The move toward the low end parallels similar strategies from Bayer Corp.'s Agfa division, Scitex Corp. and Linotype-Hell Co.

Tally declined to comment on the reports. □

PosterWorks

From Page 8

specify a custom width and height for each column and row within a layout. The upgrade lets users click and drag to rotate or reposition panels or to resize them up to 100 by 100 feet. It also features independent rotation of artwork, layouts and panels.

In addition, PosterWorks 4.0 offers a variety of new registration and crop marks as well as additional bleed capabilities for a layout. The company has extended the product's template library to include more than 200 templates.

PosterWorks 4.0 will ship with Version 2.0 of EfiColor color-management software from Electronics for Imaging Inc. of San Mateo, Calif. (see 03.14.94, Page 22).

New interface features include status bars and palettes that show panel size as well as limits on output devices. Dialog boxes are also reorganized in Version 4.0, the company said.

The upgrade's Layout Assistant guides users through the process of configuring printer and layout settings with a series of questions.

According to beta tester Paul Smith, computer graphics department manager with Oregon Blue Print Co. of Portland, Ore., the software speeds his company's production of large-format displays from 54- and 44-inch-wide Xerox electrostatic color printers.

Smith said PosterWorks 4.0's Power Mac-native software has made a big difference in performance on large files. "It flies," he said. "We regularly process files that are 100, 200 Mbytes in size. It's awesome how fast [PosterWorks 4.0] processes them; it can turn a 200-Mbyte file into a mural in 5 to 10 minutes."

Upgrades to PosterWorks 4.0 will be free to users of Version 3.0 who bought the software after Jan. 1 and $129 to others. Simultaneous with the Mac release, the company will roll out the first Windows version of its software, also priced at $495.

S.H. Pierce & Co. of Cambridge, Mass., can be reached at (617) 338-2222; fax (617) 338-2223; http://www.posterworks.com. □

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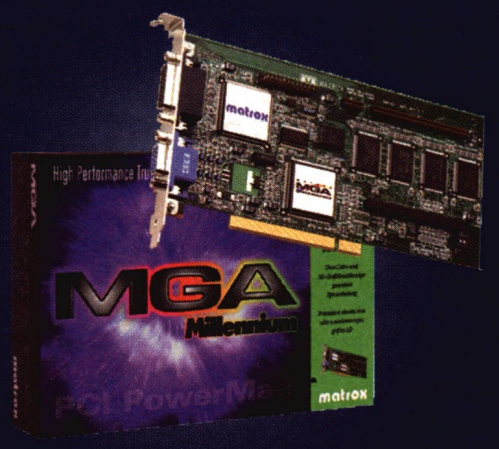

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MacBench 3.0 publishing graphics mix test performed on Power Mac 9500/132 with 40MB of RAM @ 1152 x 870 in 16.7 million colors with Matrox Millennium for PCI Power Mac, Number Nine Imagine 128, IMS Twin Turbo 128 and Radius Thuner 30/1600.

Farallon to enter Net

Two free spinoffs from Timbuktu

By Joanna Pearlstein

Farallon Computing Inc. this spring will break out two Timbuktu Pro features as free Internet applets.

Farallon's Look@Me applet, based on the Observe feature of the screen-sharing and remote-control utility Timbuktu Pro, will let users observe the screen of another user over the Internet. Connections are initiated when users enter the Internet Protocol address of another machine, similar to the way users view video with the CU-SeeMe conferencing application.

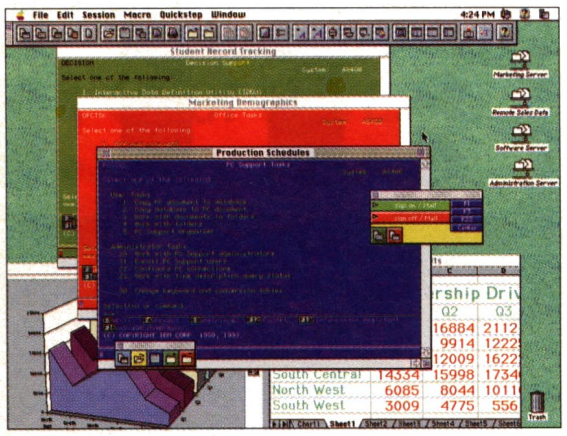
Another applet, FlashNote, can send files and short messages to other Internet users; that applet is based on Timbuktu's Send function. "FlashNote is not meant to replace e-mail," said Jeff Porter, Timbuktu product manager. "FlashNote can transfer data in real time along with some communications as well." Porter said some users call FlashNote "the Federal Express of the Internet."

"Anything that provides remote-access features that can run over the Internet is terrific," said Hubert Delany, research director of Internet Strategies at the Gartner Group Inc. of Stamford, Conn. "It's also a dangerous thing. What about security? Everyone has access to the Web. ... You're opening up your machine to the world."

Look@Me and FlashNote require direct connections to the Internet via TCP/IP, either via Point-to-Point Protocol, Serial Line Internet Protocol or a LAN-based connection. The products will not work with on-line services' Internet connections.

Each will be available both as a stand-alone application and as a plug-in for Netscape Navigator. While the applications are called applets, they are not written in Java. Look@Me is expected to ship in late April; FlashNote is expected in late April or early May.

Farallon Computing Inc. of Alameda, Calif., can be reached at (510) 814-5000; fax (510) 814-5023; info@farallon.com; http://www.farallon.com. □



With Wall Data's Mac Rumba, users can brighten the face of terminal emulation by changing the font and color of the window.

Wall Data ready to Rumba with clients and gateways

By Joanna Pearlstein

The choices for Mac mainframe connectivity will grow this week when Wall Data Inc. ships Mac Rumba, the company's line of terminal emulators.

First announced in August (see 08.21.95, Page 22), Mac Rumba lets Mac users connect to mainframes and IBM Corp.'s AS/400. Versions with Systems Network Architecture (SNA), TCP/IP and Novell NetWare support are available.

Formerly known as SNA•ps, Mac Rumba provides 3270 display as well as print and file transfer capabilities. The new version includes a revised graphical interface, allowing users to change the color or font of text being viewed. Mac Rumba also offers scripting and macro support, a toolbox for administrators, and drag-and-drop file transfer.

FTP bookmarks allow users to store URLs (uniform resource locators) on the client, giving them access to files on the host more quickly. A Hotspot feature provides access to common mainframe functions.

A 70-user gateway with 10 clients costs $2,500; users who do not need the gateway can purchase the Mac Rumba for the Mainframe multiprotocol package (including SNA, TCP/IP and NetWare support) for $275. Individual protocol versions, including AppleTalk, will also be available.

Wall Data Inc. of Kirkland, Wash., is at (415) 856-9255 or (800) 915-9255; fax (415) 856-9265; http://www.walldata.com. □

FileWave 2.5 adds scripts, templates

By Joanna Pearlstein

This month Wave Research Inc. will add templates and scripting to a new version of FileWave, its software-distribution package.

Designed for IS managers, the product distributes and manages software automatically, and it can detect when software has been deleted by a user on a network machine and then reinstall it.

New to Version 2.5 of FileWave will be a component called FileSets. Wave Research will offer 20 FileSet templates, including forms for System 7.5.x, Microsoft Office, Claris Corp.'s FileMaker Pro and ClarisWorks. Administrators will be able to mount a template of disk footprints, called a FileSet, for installing software on remote ma-

See Wave, Page 14

NetManage ships networking tools

By Clifford Colby

NetManage Inc. gave network managers and developers a boost last month when it updated its communications applications.

New to the company's $295 Chameleon tools suite is PacerTerm, the terminal-emulation and file transfer application NetManage acquired along with AGE Logic Inc. in December. Also part of Chameleon are NetManage's WebSurfer Web browser, FTP tool and PacerPPP Point-to-Point Protocol application.

NetManage also released the next version of XoftWare for Mac, its X Window System software for accessing Unix applications across a network. The software, which also came with the AGE acquisition, now runs native on Power Macs and is compliant with Open Transport. XoftWare comes with PPP and Serial Line Internet Protocol capabilities for accessing remote X hosts. XoftWare for the Mac costs $295; a bundle of XoftWare and Chameleon for the Mac is $395.

Finally, NetManage shipped its WinSock Software Developers Kit for the Mac. With WinSock's API, developers can port their TCP/IP-aware applications to the Mac without rewriting the networking portion of the code. The kit costs $250 per developer and includes royalty-free distribution. Apple announced last fall it incorporated NetManage's Windows Sockets libraries into Open Transport.

NetManage Inc. of Cupertino, Calif., can be reached at (408) 973-7171; fax (408) 257-6405; sales@netmanage.com; http://www.netmanage.com. □

Component market to go on-line

By Clifford Colby

Kantara Development hopes to make life easier for users trying to find and retrieve OpenDoc software. The company said it plans this month to open up Part Merchant, an on-line marketplace for component software.

Users will be able to purchase and download Apple and third-party OpenDoc applications from the Part Merchant Web site; the company said it plans to offer Mac, AIX, OS/2 and Windows components. The site will support CyberCash Inc.'s method of electronic commerce.

In addition, Kantara will help users find missing OpenDoc pieces. The company will freely distribute its PM Finder extension, which will notify users if they are missing the software required to view or edit a particular data type. PM Finder will be able to go to the Part Merchant Web site and list the part editors and viewers available for the data type. Users can then download the missing piece.

Kantara Development of Newport Beach, Calif., can be reached at (714) 675-7327; info@partmerchant.com; http://www.partmerchant.com.

From the comfort of their own homes or offices, users will be able to shop for OpenDoc software on the Part Merchant's Web site.

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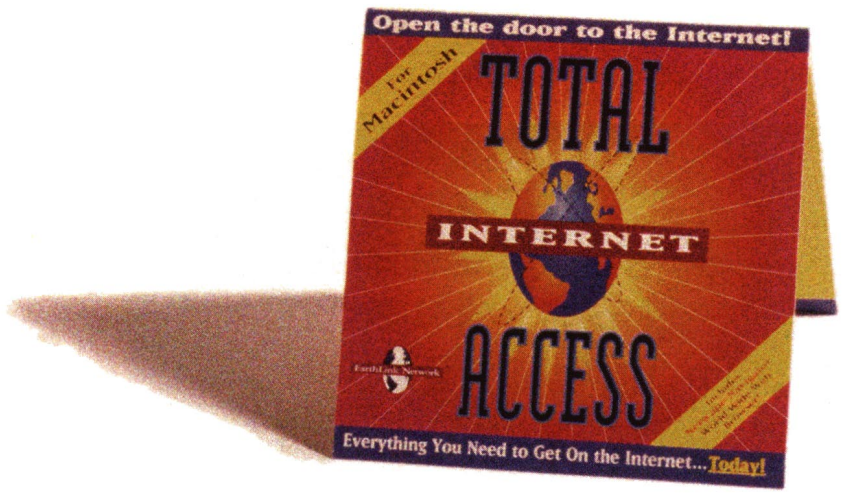

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Web DBs build custom HTML pages

By James.Staten

HeyerTech Inc. and Purity Software Inc. will soon offer tools that help Mac Web sites serve custom pages based on an individual surfer's interests.

The applications will store text, images and files from a Web site as objects that can be mixed to suit the needs of each visitor. Administrators will only need to maintain template documents; HTML coding will be performed automatically.

Both solutions will be able to build search and customer-profile forms that help determine user requirements. The applications will be Web server-independent, Power Mac-native and support the Apple Thread Manager.

Expected to ship next week, HeyerTech's WebMaster Pro is a database and Asynchronous CGI (Common Gateway Interface) in one. The company said administrators need only to point the program at a local server; it will automatically import the site by following the links. WebMaster Pro can also import files from FTP servers.

The database will be able to store custom HTML tags, create links, generate image maps and convert PICT files into GIF or JPEG formats. It will also output a list of invalid links.

A multi-user version, expected to ship in late summer, will allow multiple administrators to edit the same site; it will also offer more-advanced user tracking.

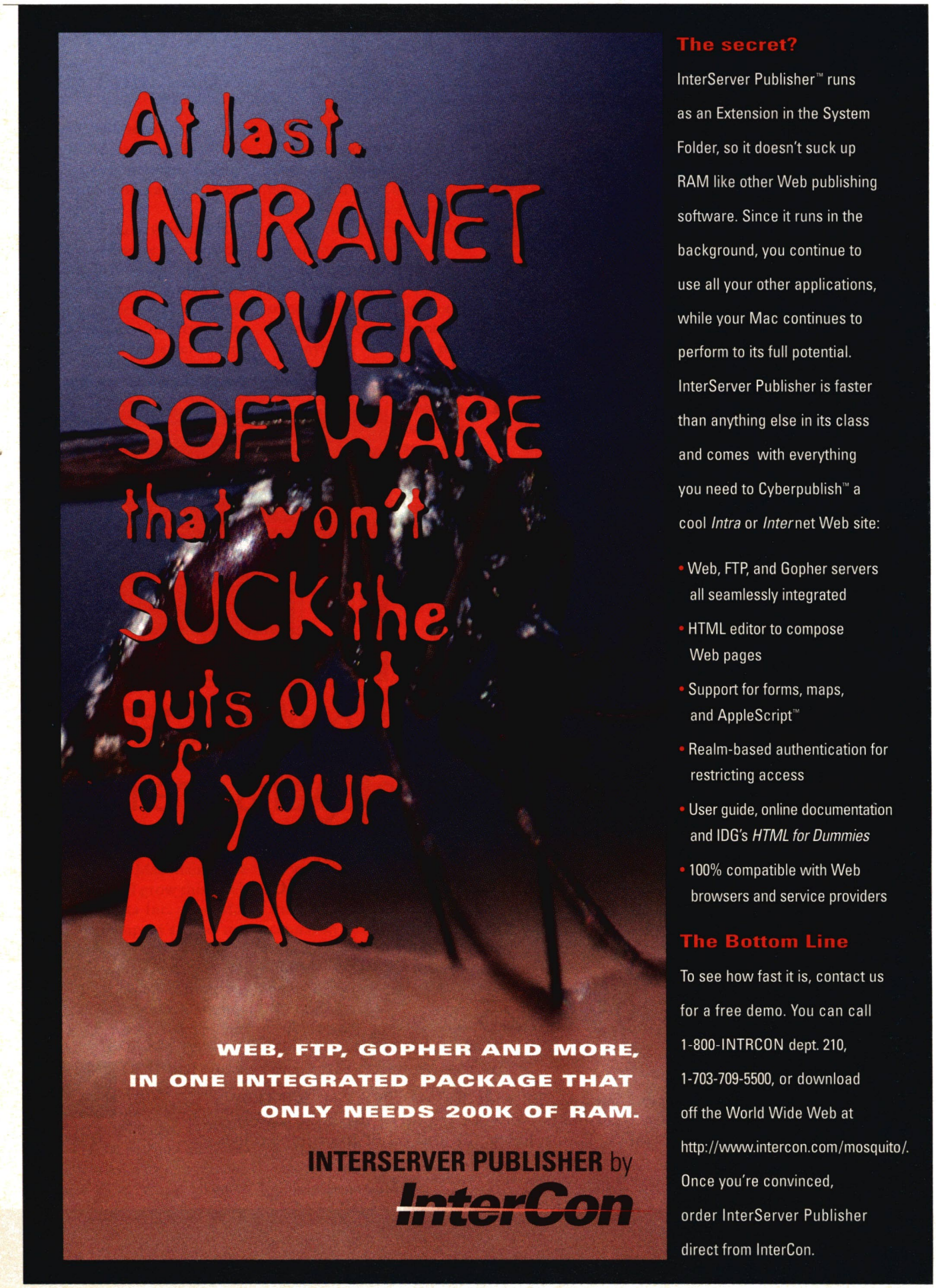
WebMaster Pro will cost $499; it is $99 until May 1. Pricing for the multi-user version has not been set.

Purity's SuperNova, due next month for $195, will be a flat-file, scriptable database. WebSiphon, due in April and priced at $495 bundled with SuperNova, will add the capability to serve custom Web pages. WebSiphon will build pages using not only a customer profile and search requests but also the client's domain, browser type and TCP/IP address. For example, in response to a user connecting from a Japanese domain, WebSiphon can display a tabular page in Kanji.

The company said WebSiphon and SuperNova together will fit on a high-density floppy and run in a 2-Mbyte RAM partition.

HeyerTech Inc. of Palo Alto, Calif., can be reached at (415) 325-8522; fax (415) 325-5613; htech@netcom.com; http://www.heyertech.com.

Purity Software Inc. of Austin, Texas, can be reached at (512) 892-2668; info@purity.com; http://www.purity.com. □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Wave

From Page 12

chines. The product's FileSet Magic feature will let users create FileSets for other applications.

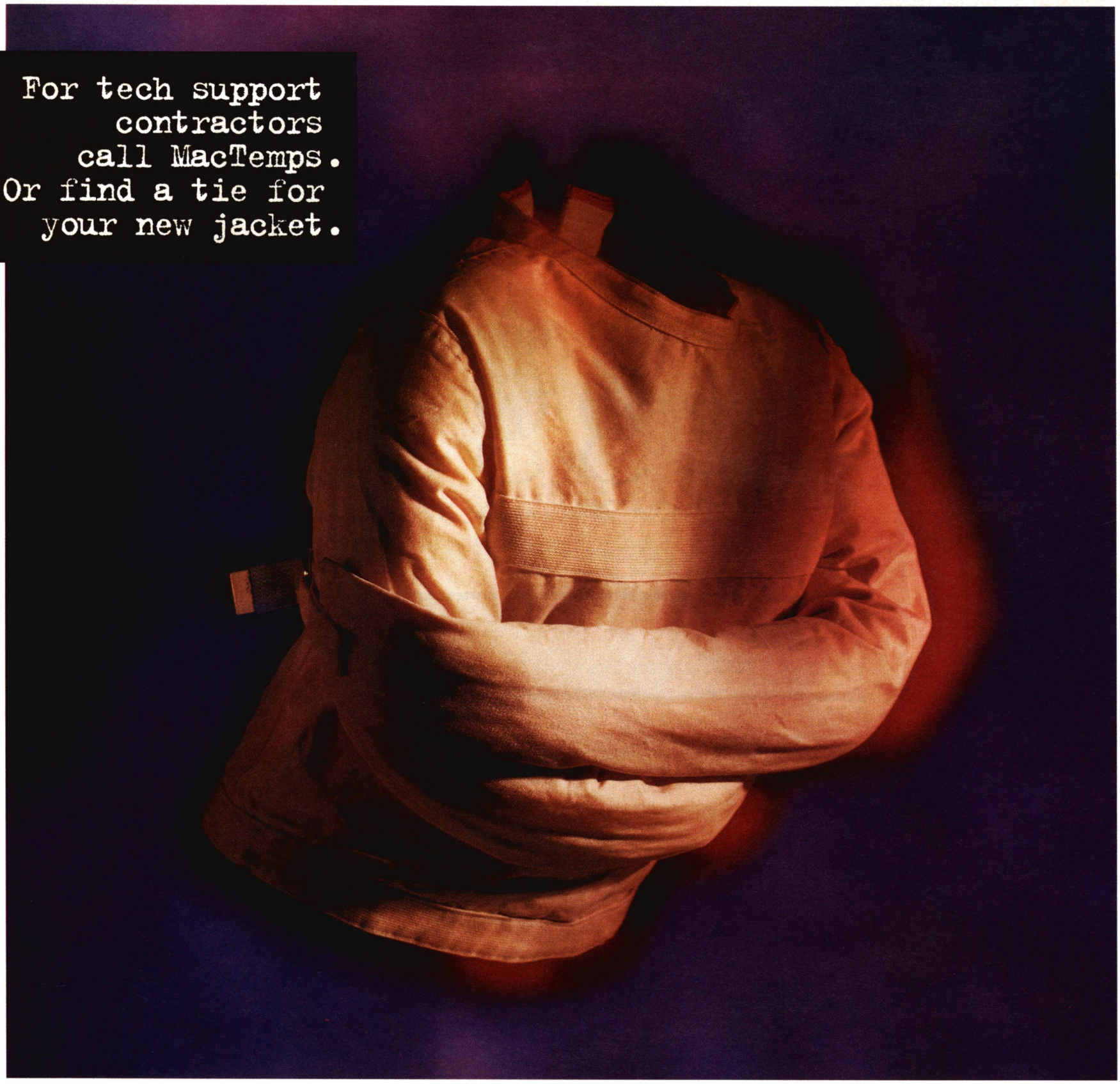
FileWave is available in two versions: the Workgroup edition, which includes the distribution and FileSets features, and the Enterprise edition, which will profile remote desktops and report on a machine's CPU, RAM and hard disk space. The Enterprise edition will also come with scripting capabilities, concurrent usage monitoring and user management.

"[Version] 2.5 delivers on promises we've heard before," said a beta tester. "FileWave used to be implemented as a local [AppleTalk Filing Protocol] volume, and that caused a number of pretty significant compatibility and performance issues. With 2.5, that goes away."

Wave Research said it plans to ship a Windows version of FileWave next year; the company also said it was working on an Internet version of the product.

A 10-user Starter pack of the Workgroup edition will cost $495; the Enterprise edition Starter pack will cost $3,795. FileWave 2.1 is shipping with Apple's new workgroup servers (see 02.26.96, Page 4); upgrades to Version 2.5 for owners of those servers will be free.

Wave Research Inc. of Berkeley, Calif., can be reached at (510) 704-3900; fax (510) 704-3950; info@waveresearch.com; http://www.waveresearch.com. □



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★★★½	Panasonic Pana Media 17	•	+	•	•
★★★	Philips 17B	•	•	•	−
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BPA INTERNATIONAL

Corel draws on Mac buyers

A prevailing misconception about the Mac market is that no self-respecting Windows developer would set foot in it. This canard ranks with the one about Apple no longer being able to innovate.

Corel Corp. is the latest successful Windows company to compete for Mac users' flush pocketbooks. Last month the company announced that it had bought the WordPerfect division from Novell Inc. and said the Mac market was ripe for a software suite to compete with Microsoft Corp.'s Office juggernaut.

But the big news came last week when Corel revealed Mac product plans for its flagship software, CorelDraw. The package, which will ship for between $500 and $600 in June, is the primary source for the company's record 1995 revenues of $196 million.

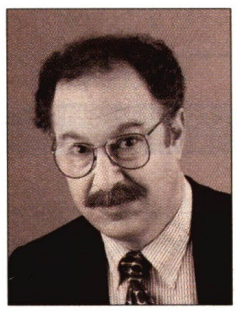
According to Corel, its future growth will come from multimedia, desktop video and the Internet. Corel's executives understand that they cannot fully exploit those segments without having a strong position in the Mac market. They can read market share charts as well as anyone else. In those key segments the Mac is as strong as or stronger than Windows. As a system for content developers in multimedia and digital video, the Mac dominates, and the Mac's share on the Internet is nearly three times the platform's worldwide market share.

Like all companies, Corel has to grow. It could have continued to seek its growth exclusively on its traditional Windows turf. Few observers would have faulted the company for remaining so parochial. But Corel has wisely proven once again that any company hoping to exploit premium markets for growth must have a Mac product line and strategy.

Corel will undoubtedly get a bigger return in sales and profits with a Mac investment than by pouring the same money into Windows development. We hope that other developers, such as AutoDesk Inc., will see the wisdom of such a profitable strategy and follow in Corel's wake. □

THE SECOND DECADE HENRY NORR

Next millennium: New directions or new owner?



Let's suppose that Gilbert Amelio turns out to be Super-CEO, able not only to leap tall buildings (that's the easy part), but also to restore employee morale, management focus, developer commitment and customer confidence. If he can do all that, both market share and profits will undoubtedly start inching back up — maybe even in the same quarter.

But will even such heroics give Apple a firm foundation for the next millennium? Not, in my judgment, unless its new chief also initiates some fundamental changes in the company's mission and direction.

Covering the costs

Without question, many companies prosper with far smaller shares of their markets than Apple holds in its. The problem is that few other industries are marked by the rapid technological progress, furious competition and ever-rising customer expectations that drive the computer business. In this industry, innovation isn't an option; it's a condition of survival because the other guys are always working on something better, and if you can't match them, they'll eat you for lunch.

Unfortunately, in this case the other guys can, collectively, spread their R&D, marketing and manufacturing costs over volumes an order of magnitude larger than Apple's. The company has already moved to share in these economies of scale by using more industry-standard components, and the PowerPC Platform will mark another long step in that direction. But as long as Mac OS users are the only high-volume customers for the PowerPC, we bear the whole cost of competing with Intel Corp. And in terms of the OS, Apple continues to shoulder the entire burden itself; so far, its efforts to spread those costs through alliances have probably cost more than they've returned.

Apple has managed to stay in the game until now, despite its smaller base. But it's been riding on a lead that dates from the early 1980s; Steve Jobs exaggerated only a little when he recently said on National Public Radio's "Fresh Air" that Apple had a 10-year lead over Microsoft Corp. the day he left in 1985 — and that most of that lead has now evaporated. And despite some bright spots, Apple's record in today's key competitive arenas — networking and communications, particularly the Internet, and object-oriented development — is not one of consistent leadership.

Where from here?

This argument might seem to point to the conclusion that Apple is doomed. I don't believe that. But to survive into the 21st century it will need new revenue sources outside the personal computer market. These dollars may come from new businesses where the company can hope for a larger share and better margins — if Amelio can do better than his predecessors at finding remunerative ways for Apple to diversify. Otherwise, I'm afraid the only alternative I can see is the one former Chief Financial Officer Joe Graziano reportedly pushed: Find a suitor and hope that what's best in Apple's legacy survives the marriage. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at henry_norr@macweek.com.

LETTERS

Anti-Mac logic doesn't fly

As a technical consultant to NASA's Johnson Space Center several years ago, I was involved in helping civil service managers procure personal computers, including Macs, for the center.

Your article about John Garman, the JSC's chief information officer, trying to kill off the Macintosh (02.12.96, Page 1) brought back memories for me. It was well-known throughout the center that for years he had been on a crusade to eliminate the Mac and that it would be only a matter of time until he was successful.

Of course, his arguments were based on the lack of a second source for the Macintosh platform (at that time), and his misperceptions of the life-cycle cost of personal computing, but this didn't stop him from endorsing Microsoft products every chance he got, even though these were also single-source products.

Now I see that since the Mac *has* a viable second source, he's switched to the reason that JSC needs a "uniform standard." He can say whatever he wants, but those of us who work (or worked, in my happy past-tense case) at JSC know that reason has nothing to do with his decision.

Art Gorski
Humanities computing
Rice University, Houston

No danger for Macs

I agree 100 percent with what Matthew Rothenberg said about the Mac being in no danger when viewed through the eyes of someone working in publishing (02.12.96, Page 3). The service bureaus I use have one or two Intel-standard machines for the occasional PC user who might find his way in. I have never once seen anyone use them. The Mac rules the graphics world.

I was talking with some colleagues recently, and we were hypothesizing about what we would do if Apple and the Mac really did go the way of the dodo. The answer: None of us could bring ourselves to get a Wintel box. Those who had to work in mixed environments were the most adamant about it. Instead, the BeBox was the choice, with some of us considering NeXTStep for its on-screen PostScript.

With that in mind, it seems doubtful that the Mac will lose its position in publishing anytime soon, and certainty not to Windows. I can look forward to more letters in Publish magazine from PC users who whine about not being on a supported platform, and many more issues of MacWEEK and the GA section.

Brendan Bolles, graphic designer
University of California at Berkeley

Too clever by half

That MacWEEK could let Matthew Rothenberg's "Bringing it all back home" article go to print baffles me. Even when I don't agree with the opinions or attitudes presented in your MacWEEK Insider columns, I generally find them to be interesting, thought-provoking and well-written. Mr. Rothenberg's piece was a gross exception.

In addition to lacking information and argument, it was so thick with overwrought metaphors and contrived clichés that I couldn't find the substance of the column. I need not have bothered, though, because absent all of his silly prattling about Apple strudel, Hamlet, cool Alpine breezes and cheese wedges, he wrote only a few (relatively uninformative) paragraphs. He spent far too much time trying to be clever and not nearly enough giving us real information about why the Macintosh was going to remain strong in the graphic arts arena. I trust that next week, MacWEEK Insider will be back to its normal high caliber of writing and insight and that Mr. Rothenberg's writing will return to a more appropriate mode for MacWEEK's journalistic endeavors.

Benjamin Turner, San Francisco

Omnis omission

I was very disappointed in your articles on cross-platform tools (02.05.96, Page 18). I noticed that Omnis 7, the multiplatform fourth-generation-language client-server development tool from Blyth Software Inc., was not mentioned once. This seems to be typical. There have been a number of times that you have had articles regarding cross-platform client-server development that have ignored the existence of Omnis 7. If you haven't tried Omnis 7, you should. It is a very good tool for 4GL development that does not sacrifice the Mac interface to the lowest common denominator. It also does not require an absurd amount of RAM to run, as do some more recently released 4GL tools that are popular with Wintel users.

Matthew Kott
Project leader, information technology
Pfizer Inc.
Chita-Gun, Aichi, Japan

How to contact MacWEEK

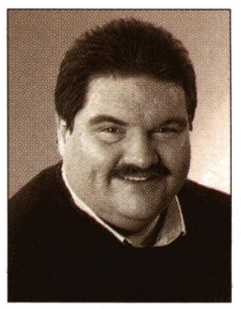
Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted on-line: CompuServe, 76077,1351; eworld, MacWEEK; MCI, 323-1203; Internet, letters@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

THE MAC MANAGER DON CRABB

We've seen the problem at Apple, and it is us

I've been thinking about the "problem with Apple" for months now. I've looked at its operation up close and personal. I've interviewed dozens of Apple heavy hitters and dozens more outside the company who are obsessing on the fate and future of the company. I've even read the press accounts. The good, the bad and the ultra ugly.

I've warped my own mind trying to get into the corporate mind of Apple. And, finally, the light bulb has turned on. Apple doesn't have a problem. The problem, I'm afraid, is all ours. Before you reach for your AutoemailflametoDon button, hear me out.



Self-evident truths

Has Apple made marketing mistakes? Yes. Has Apple made management mistakes? Yes. Has Apple made forecasting and operational mistakes? Yes. Has Apple made technology mistakes? Yes. All of these things are true.

Has Apple shined with marketing successes? Yes. Has Apple shined with brilliant management successes? Yes. Has Apple shined with forecasting and operational successes? Yes. Has Apple shined with state-of-anyone's-art technological successes? Yes.

All of these things are true, too. So where does that leave us?

Is Apple a major capitalistic screw-up? Or a first-rate enterprise?

Apple is neither, either and both. It all depends on your point of view and the ax you're grinding. And that's why the question is not "What's the problem with Apple?" but rather, "What's the problem with us?"

The simple truth is that Apple is not a monolithic entity. Yet all MacFolk expect it to act like one: one that cranks out perfect computers that are perfectly easy to use at the perfect price. A perfect world.

Of monoliths and MacFolk

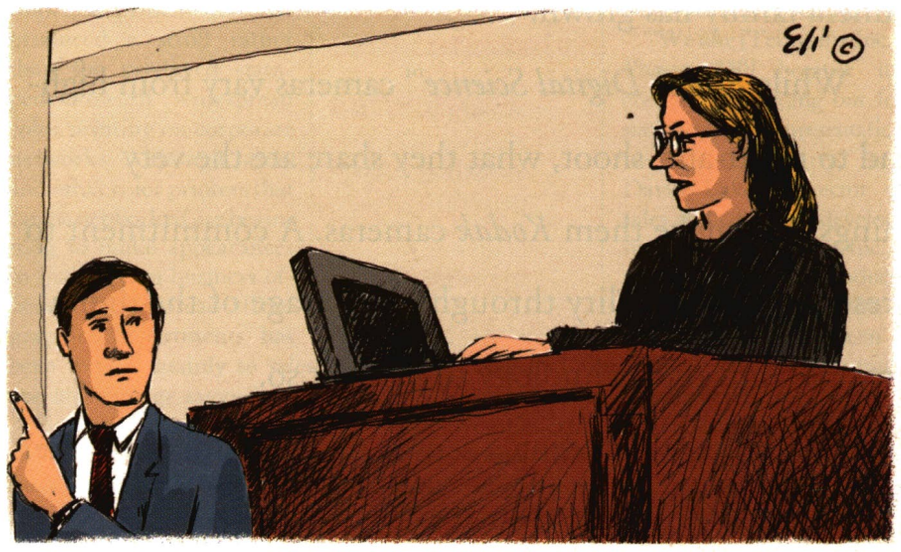
Unfortunately, our colleagues who are not MacFolk have picked up on this. It would have been impossible not to, since we've thrown it in their faces for years: "The Mac is the best computer, and you're a lame weasel if you don't have one," we've preached at the top of our lungs.

And now others are holding Apple's feet to the fire we started — to standards of corporate performance that even a hypothetically perfect monolithic company could not achieve.

As a result, when it comes to Apple, the natural peaks and valleys that any corporate organism goes through are getting overanalyzed, overcriticized and overblown. These peaks and valleys don't jibe with the perfect monolithic entity that is our popular conception of Apple Computer Inc., a popular conception that we MacFolk have proselytized over the years to all of our Wintel cousins and one that has finally come back to bite us at the worst possible time.

I've learned in the past few months that: (1) Apple was never as perfect, fantastic, wonderful and supercalifragilisticexpialidocious as I had dreamed; (2) Apple does not deserve the vilification its current valleys have caused it; and (3) Apple's no monolith, my friends. And thank God for that. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



"Hold on a minute, counselor, the court needs to reboot."

Comments? Ideas? Contact Eli at elitoons@aol.com

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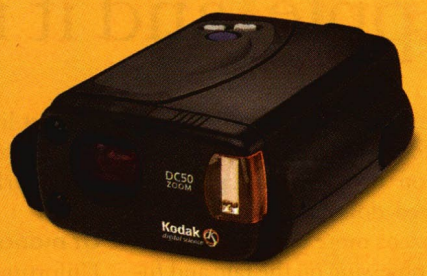

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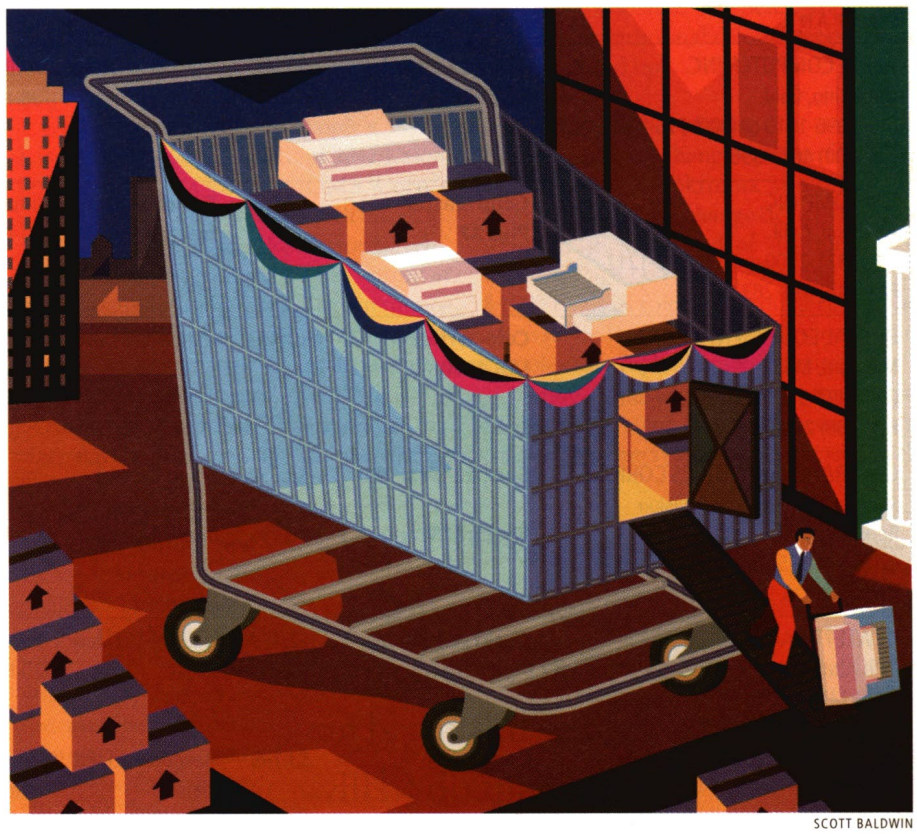
1996: The year of business color printing, perhaps

By David Morgenstern and Matthew Rothenberg



SCOTT BALDWIN

Like major-league managers forecasting their success for the upcoming season from the practice fields of spring training, printer vendors are again predicting that this will be the year when color finally permeates the business market.

Color printers have yet to match the strength of their monochrome cousins.

However, users are still waiting for the other shoe to drop. While current technologies are gaining flexibility and strength, no single color printer can yet match the features and ease of use that are found in popular monochrome laser printers.

Desktop color output has its roots in the graphics department, but demand for color graphics has reached corporate sales, marketing and accounting departments as well (see story, right).

Many businesses find that the high-cost technologies aimed at the requirements of pre-press and graphics departments are wasted on workaday applications. While full-bleed tabloid-size photorealistic output is impressive and costly, the commonplace letter- and legal-size pages and lower prices for printers and consumables are more easily tolerated by departmental budgets.

Fortunately for corporate users, the past year has seen an explosion of color options designed specifically for networked sites. While these devices require a higher initial investment, their flexibility and relatively low maintenance costs make them an attractive choice.

The current focus of corporate interest has been on color laser engines. However, heavy-duty networked inkjets and solid-ink devices offer additional options.

Monochrome blues

Foremost among the business applications for color is the field of presentation graphics. Corporate presentations draw heavily on both text and images, and full-color transparencies have become the lowest common denominator.

In addition, business users are finding that color highlights can punch up their day-to-day documents, just as the Mac's use of styled text once made a stir with black-and-white output. Furthermore, the rise of digital cameras and low-cost 24-bit-color flatbed scanners in the workplace has helped to promote the inclusion of full-color images in a variety of documents.

Advances in monochrome printers have also raised business users' expectations about the document-handling capabilities of their output devices. Instead of printing a single copy of a document, then mass-producing it on the office photocopier, workgroup users are now printing multiple collated documents on the latest networked monochrome printers from Hewlett-Packard Co., Lexmark International Inc., Xerox Corp. and others.

According to a recent study by Xerox, more than 30 percent of current black-and-white printing tasks comprise jobs that used to be handled by a photocopier. Instead of printing a single copy on a printer and heading down the hall or to the service bureau for multiple copies, users are going to desktop printers for short-run publishing. Analysts said this trend toward midrange workgroup printers will be echoed in the realm of color output.

Meanwhile, business users have become more discerning about the quality and costs of their color output. Previously, users preparing business presentations were relegated to expensive, specialized color output devices such as thermal-wax printers. As color has become more widespread, users have come to expect greater flexibility in paper handling and lower consumables costs.

Make the network connection

Like their monochrome counterparts, business color printers have been traditionally divided between personal desktop models and heavily trafficked network devices.

For business users, unlike graphics users, image quality is not the sole consideration. Instead, cost has been the primary concern for corporate users entering the world of color output. Inkjets such as Apple's 24-bit Color StyleWriter 2400, Epson America Inc.'s Color Stylus Pro and HP's DeskWriter series are priced so competitively that departments at large sites can frequently purchase them for individual or small-group use without a great deal of formal justification.

However, the slow speeds of most personal inkjet models do not meet the requirements of business users looking for a workgroup printer. Although models such as the 2400 offer a LocalTalk port, and third parties, such as GDT SoftWorks Inc., offer host-based PostScript RIPs for the devices, the low-cost inkjets have neither the throughput speeds, inexpensive consumables nor centralized support that many corporate sites demand.

Looking to laser

While it has been slower out of the starting gate than many observers hoped, color laser printing offers the most attractive constellation of features for workgroup printing of text and color graphics.

Indeed, many vendors have clambered

See Printers, Page 23

Users network color printers, but mostly for sales, marketing

By Cliff Lehman

Color printing over corporate networks is taking hold, but it's not widespread.

The advent of inexpensive color laser printers has so far produced a stroll rather than the predicted stampede toward widespread color printing on corporate networks. Although lasers and other color printers that can be networked are beginning to make appearances in mainstream business offices, their spread from graphics departments has been limited mainly to sales, marketing and other image-savvy departments.

Users in marketing and sales are making the most of the color advantage, producing short runs of paper-based reports, brochures, specification sheets, and other sales and promotional pieces that would normally be more expensive at a copy or quick-print shop and too expensive for short-run color offset printing.

"We like [Tektronix Inc.'s Phaser 540] because it's cheaper than going out for six sets of a color presentation to some third party," said David Lakey, director of sales and customer development at Pope & Talbot Inc., a wood and paper products company in Portland, Ore.

The printer has been a boon for Lakey and his sales crew, who must prepare an analysis of sales data for potential customers. They create transparencies and paper versions of their presentations. "We use the printer to print packets of consumer purchase patterns for detailed proposals for sales presentations," Lakey said. "Color gets

See Color users, Page 24

Networkable color printers with embedded PostScript

COMPANY.	PRODUCT	PRICE	ENGINE	POSTSCRIPT CONTROLLER, CPU, SPEED	PRINT SPEED*	RAM (MB)	NETWORK CONNECTIONS	IMAGING AREA	RESOLUTION (DPI)
APPLE COMPUTER INC. Cupertino, Calif. (408) 996-1010 or (800) 776-2333 Fax (800) 462-4396	**Color LaserWriter 12/600PS**	$6,989	Canon color laser	AMD 29030 30-MHz	3/12	12	EtherTalk, TCP/IP, IPX	8.5"x14"	True 600 dpi plus Color PhotoGrade for enhanced dpi
CALCOMP INC. Anaheim, Calif. (714) 821-2000 or (800) 932-1212 Fax (714) 821-2832	**ColorMaster Plus XF**	$7,995	CalComp thermal-wax transfer	Intel 80960CA, 33-MHz	1.5/3	16	EtherTalk option ($995)	8.75"x11.25"; 11.25"x17.75"	300x300
DIGITAL EQUIPMENT CORP. Maynard, Mass. (508) 493-5111 or (800) 344-4825 Fax (508) 264-6661	**ColorWriter LSR 2000**	$13,499	Canon color laser	EFI, Fiery XJE, 100-MHz	3/12	32	EtherTalk, TCP/IP, IPX	8.5"x11" 8.5"x14" 11"x14"	600x600
GENERAL PARAMETRICS CORP. Spectra*Star Products Division Berkeley, Calif. (510) 524-3950 or (800) 223-0999 Fax (510) 524-9954	**Spectra*Star 280**	$3,650	Sharp thermal-wax transfer	Intel 80960CF, 33-MHz	0.5/2	10	EtherTalk, TCP/IP	8.11"x10.59"	300x600
	Spectra*Star DSX	$6,995	Sharp dye-sub	Intel 80960CF, 33-MHz	2/2	16	EtherTalk, TCP/IP	8.04"x12.73"	300x600
HEWLETT-PACKARD CO. Palo Alto, Calif. (415) 246-4300 or (800) 752-0900 Fax (800) 333-1917	**DeskJet 1600CM**	$2,479	Hewlett-Packard inkjet	Intel 80960 20-MHz	4/9	6	Ethernet or LocalTalk with HP JetDirect card (included)	8.16"x13.67"	600x600 (black text), 300x300 (color with ColorSmart)
	CopyJet M	$3,199	Hewlett-Packard inkjet	Intel i80960SA, 11-MHz Intel i809060CA, 33-MHz Motorola 688C11, 12-MHz	1.5/7	7	Ethernet or LocalTalk with HP JetDirect card (included), optional token-ring: $619	8.16"x13.67"	600x600 (b/w) 300x300 (color)
	Color LaserJet	$7,295	Konica color laser	AMD 29030	2/10	8	EtherTalk ($429), token-ring ($619)	11"x17"	300x300
LEXMARK INTERNATIONAL INC. Lexington, Ky. (606) 232-2000 or (800) 358-5835 Fax (606) 232-2403	**Optra C**	$6,849	Canon color laser	PostScript Level 2, enhanced PCL 5	3/12	8 to 64	LocalTalk, EtherTalk, Marknet XI, token-ring	8.25"x13.42"	600x600
	Color Jetprinter 4079 plus	$3,199	Lexmark inkjet	PostScript Level 2, enhanced PCL 5 emulations	1/1.7	4 to 36	LocalTalk, EtherTalk, Marknet XI, token-ring	8"x13.66"	360x360
MITSUBISHI IMAGING AMERICA INC. Cypress, Calif. (714) 220-2500 or (800) 843-2512 Fax (714) 229-3854	**S-3600-4OU**	$8,995	Mitsubishi thermal dye-sub	PostScript Level 2, AMD 2900, 25-MHz	1.6/3	12	LocalTalk, EtherTalk	7.9"x11.4"	300
	S-6600-4OU	$14,495	Mitsubishi thermal dye-sub	PostScript Level 2, AMD 2900, 25-MHz	1.6/3	24	LocalTalk, EtherTalk	11.9"x 17.2"	300
PANASONIC COMMUNICATIONS & SYSTEMS CO. Secaucus, N.J. (201) 348-7000 or (800) 742-8086	**KX-P8475**	TBD	Matsushita color laser	AMD 29040 RISC 33-MHz	5/14	8 to 72	LocalTalk, EtherTalk, IPX, token-ring	11"x14"	600x600
QMS INC. Mobile, Ala. (334) 633-4300 or (800) 523-2696 Fax (334) 633-4866	**magicolor CX**	$5,799 $6,499 $7,999	Hitachi color laser	IDT 3081, 40-MHz	3/12	8, 20, 32	LocalTalk, token-ring EtherTalk (32-Mbyte only) 8-, 20-Mbyte options: Ethernet ($850), token-ring ($850), LocalTalk ($299)	8.1"x10.2"	600 b/w, 300 color (w/8 Mbytes of RAM), 600 color (w/20+ Mbytes of RAM)
SEIKO INSTRUMENTS USA INC. San Jose, Calif. (408) 922-5800 or (800) 888-0817 Fax (408) 922-5840	**ColorPoint 2 PSF Model 4**	$4,999	Seiko thermal-wax transfer	PostScript Level 2, Intel 80960CF, 33-MHz	1/2.25	8	EtherTalk, TCP/IP	8.53"x13"	300
	Professional ColorPoint 2 PSF Model 4	$7,999	Seiko dye-sub and thermal-wax transfer	PostScript Level 2, Intel 80960CF, 33-MHz	0.5/1	16	EtherTalk, TCP/IP	8.21"x10.7"	300
TEKTRONIX INC. Wilsonville, Ore. (503) 682-7370 or (800) 835-6100 Fax (503) 682-2980	**Phaser 550**	$6,995	KME color laser	PostScript Level 2, AMD, 32-MHz	5/14	16, 32 64	EtherTalk $595, token-ring $895	8.5"x11"	600x1,200
	Phaser 340	$4,995	Tektronix solid ink	PostScript Level 2, AMD, 32-MHz	4/4	8, 24	EtherTalk $595, token-ring $895	8.11"x10.55"	300x600
XEROX IMAGING SYSTEMS INC. Peabody, Mass. (508) 977-2000 or (800) 248-6550 Fax (508) 977-2435	**XPrint 4920**	$7,196	Xerox-specified Hitachi color laser	AMD, AM29030, 25-MHz	3/12	16 to 48	LocalTalk, EtherTalk, token-ring	8.1"x10.6"	600x600

Figure indicates pages per minute, color/black and white.

PRODUCT	COST PER PAGE (COLOR/BW)	DUTY CYCLE*	PAPER HANDLING	WARRANTY
Color LaserWriter 12/600PS	13¢/3¢	n/a	250-sheet feeder, 100-sheet multipurpose tray, optional 250-sheet universal feeder	1-year replacement
ColorMaster Plus XF	55¢/30¢ (8.5x11") 92¢/33¢ (11x17")	2,000-2,165	100-sheet feeder, transparencies	1 year (90 days on-site)
ColorWriter LSR 2000	16¢/4¢	20,000	350 sheets, 100-sheet multipurpose feeder, 250-sheet universal tray, optional second 250-sheet tray	9-month replacement (90 days on-site)
Spectra*Star 280	54¢	4,000	100 sheets per tray	1 year
Spectra*Star DSX	$2.48	4,000	Trays optional	1 year
DeskJet 1600CM	3.3-6.5¢/ 1.5-3¢	12,000	Letter, legal, A4 1x180, 4x500 optional	1-year express exchange
CopyJet M	6.5¢/3¢	2,000	Letter, legal, A4 1x180	1-year express exchange
Color LaserJet	17.5¢/2.6¢	15,000	Letter, legal, executive	1-year on-site
Optra C	17¢/4¢	15,000	250-sheet universal tray, 100-sheet multipurpose tray, 100-sheet output bin	1-year on-site, express
Color Jetprinter 4079 Plus	45¢/14¢	1,000	100-sheet universal auto sheet feed adjustable up to 11"x17"	1-year on-site, express
S-3600-40U	$2.30/$1.53	n/a	30-sheet cassette	1-year parts and labor, 6-month thermal head
S-6600-40U	$4.60/$3	n/a	60-sheet cassette	1-year parts and labor, 6-month thermal head
KX-P8475	n/a	5,000	Letter, legal, A4, transparencies, 250-sheet tray standard, two 250-sheet trays optional	n/a
magicolor CX	6¢/2¢	5,000 (color) 20,000 (b/w)	250-sheet cassette, optional 30-envelope tray, 250-sheet input feeder	90-day on-site
ColorPoint 2 PSF Model 4	50¢/21¢	n/a	100-sheet cassette	1-year return
ColorPoint 2 PSF Model 4 Professional	50¢/21¢ (thermal) $2.30/$1.60 (dye-sub)	n/a	100-sheet cassette	1-year return
Phaser 550	19¢/1¢	n/a	200 sheets standard, 500 more sheets optional	1 year
Phaser 340	11¢/3¢	n/a		
XPrint 4920	20¢/3¢	15,000 (color) 37,500 (b/w)	Letter, legal, A4, executive, two 250 paper, 1x75 transp., 1,000-sheet high-capacity feeder/stacker	90-day limited on-site, 3-year Xerox Total Satisfaction guarantee

**Figure indicates pages per month.*

Printers

From Page 21

aboard laser engines within the past two years. While some of the new lasers are aimed at budget-conscious users and general office tasks, others are optimized for graphics-intensive applications.

Office models include Apple's Color LaserWriter 12/600 PS, HP's Color LaserJet, Lexmark's Optra C, QMS Corp.'s magicolor CX and Xerox's XPrint 4920. These devices include PostScript Level 2 as well as RISC processors. They output at least 300 dpi in color and 600 dpi in monochrome. In addition, each offers a variety of network options, including multiprotocol Ethernet ports (see chart).

Although a number of printers in this class start at less than $7,000, users often must add RAM to take full advantage of the engine's resolution and ability to address large images. Furthermore, output speeds and features such as print queues may depend on the purchase of extra memory. Some users have switched from exclusively monochrome printers to networked color lasers. Users expecting the same performance from color output as they get in black and white will be disappointed, however. Because color printing requires four passes, it is intrinsically slower. Furthermore, color files are larger and place more of a burden on the network.

> Users expecting the same performance from color as they get in black and white will be disappointed. Color printing is intrinsically slower.

Both the Lexmark and Apple models are built around a Canon engine with an output speed of 3 pages per minute in color and 12 ppm in black and white. The Canon technology features a toner-cartridge architecture that includes fewer disposable components than competing engines from manufacturers such as Matsushita Electric Corp., Fuji Xerox Co. Ltd. and Konica Corp.

While Digital Equipment Corp. and Canon U.S.A. Inc. use the same engine technology employed by Apple and Lexmark, their color lasers draw on a customized version of Electronics for Imaging Inc.'s Fiery controller used to generate PostScript output on color copiers. These models are pricier than general office devices — around $12,000 — and are aimed primarily at high-volume graphics users.

Tektronix Inc. is seeking to span the gap between the lower- and higher-end color laser models with its latest release, the 1,200-dpi Phaser 550, priced at $6,995. Besides offering a higher resolution than other desktop color lasers, the Phaser lets users switch from CMYK to CMY output to boost speeds from 3 ppm to 5 ppm, Tektronix said (see 01.08.96, Page 4).

Several vendors, such as Tektronix and QMS, are extending the repertoire of their color lasers via color-copier options; the vendors offer a color scanner attached to the printer via a SCSI connection. Nevertheless, while these desktop models are gaining power and reliability, none of the devices currently on the market offer the range of paper-handling, fax and speed capabilities available in black-and-white printers or traditional color copiers priced at $20,000 and up.

Going through a phase

Handing users a change of pace from the color laser race, Tektronix also offers the Phaser 340, a phase-change device that uses solid-ink sticks instead of dry toner (see 03.06.95, Page 1). While the starting price of $4,995 rivals its color-laser counterparts, the 340 is far easier to maintain and service than complex electrophotographic devices.

Unlike thermal wax, the traditional medium for color business presentations, solid ink lets users print to plain paper as well as transparencies. Furthermore, its color output offers far more durability as well as higher speeds and resolutions than its thermal-wax predecessors. The solid-ink output also tolerates common presentation practices such as polyvinyl binding and folding.

While it is more flexible than thermal wax, the 340 is not designed to replace monochrome lasers. Instead, Tektronix has positioned it as a color complement to workgroup black-and-white printers.

Multifunction devices

Meanwhile, some companies have extended the range of inkjet technology beyond personal models. By adding embedded PostScript Level 2 controllers and additional networking capabilities, vendors such as Tektronix and HP are seeking to transform lower-cost models into viable options for small workgroups.

By creating a new category that combines an inkjet engine with copier capabilities these hybrids may offer new value to some sites.

For example, HP's $3,199 CopyJet M offers both 300-dpi color printer and copier functions. While printing small jobs at a service bureau costs about $1 per page, HP said, the CopyJet can print pages for about 7 cents each (see 10.02.95, Page 4).

Tektronix's $1,695 Phaser 140 includes a 360-dpi Canon engine as well as a Level 2 RISC processor. It comes with simultaneously active parallel and LocalTalk interfaces; EtherTalk, IPX and TCP/IP interfaces are optional (see 10.31.94, Page 1). It vies at the low end with HP's $2,479 DeskJet 1200C/PS, a 300-dpi, PostScript Level 2 color inkjet device that prints monochrome text at 600 by 300 dpi.

On the downside for business users, inkjet printers are far slower than competing technologies. When used as a printer, the CopyJet M will output 600-by-300-dpi black-and-white images at 4 to 7 ppm and 300-dpi color at 1 to 3 ppm, HP said. □

Color users

From Page 21

the message across much more clearly."

Although the printer is on a network of 120 computers, only the members of Lakey's sales team and the graphics department actually use it, he said.

Intraoffice productivity gains

In spite of the slow takeoff of networked color printing and its current niche in departments with an external communications orientation, some are enthusiastic about its utility in everyday internal communications.

Cheryl Currid, president of Currid & Co., a technical research and analysis company in Houston, started using color laser printers in her office as part of a contract to analyze the machines for a client. Along the way she decided to recommend the technology not only for the client, but for her own operation as well.

As part of her company's research, she put several color machines, including an Optra C from Lexmark International Inc. and a Phaser 550 to work in her offices as a real-world test.

"Our research is showing very strongly that color printing does make a difference, and not just in external communications," Currid said. "In the game of stuffing as much information into people's heads as quickly and painlessly as possible, color gets you the ability to get text or numerical information to jump off the page.

"It's not usually recognized as an area to increase productivity," Currid said. "But anybody who is upgrading their office environment needs to look at color printing. Now we print everything we can on color laser. We do some of our brochures in color that normally we wouldn't because of the cost of short print runs. We even print photos with the Optra C at 600 dpi and Tektronix's 550 at 1,200 dpi. A lot of what we've done in color are things we wanted to but didn't have the money for before."

Not all high-quality, speedy color printers use laser technology. Solid-inkjet printers, though less effective than lasers at printing monochrome text, produce excellent color graphics.

And solid-inkjet printers from Tektronix are often deployed in much the same way as color lasers. Tektronix's Phaser 340 is one of the best selling of the color printers that can be networked.

Michael Wibby, sales systems manager at Duracell Inc. in Bethel, Conn., has deployed Phaser 340s in five regional offices around the country as well as a few in the main office. He cited easy maintenance as one of the machine's main attractions.

"The 340 is a good machine," Wibby said. "From an end user's point of view, refilling the consumables is very easy, much easier than the thermal-wax printers the 340 replaced."

Each regional office has its own network over which three to five people share the Phaser 340s, mostly to print graphs and charts for sales presentations.

"They have been trouble-free on the network from the first implementation," Wibby said. "The color is very high-quality."

Liquid-inkjet initiation

Liquid-inkjet printers often serve as an entrée into color printing. However, many find that even the best liquid-inkjet printers don't meet all of their needs.

At Contract Service Corp., a distributor of building maintenance products in Temecula, Calif., Cesar Castro, president, abandoned liquid-inkjet technology in favor of a Color LaserJet from Hewlett-Packard Co. last year.

"We wanted it to look better," Castro said. "Water-based inks smear, and you don't want to give a sales piece to someone to keep and handle and have the ink smear — especially when you are selling cleaning supplies and services."

Currently the company puts out sales brochures customized for clients and proposals of up to 100 pages for potential customers. Castro said he plans to dump his monochrome HP LaserJet 4MV and go with the Color LaserJet as his company's only printer.

"[Soon,] we will set up so that anything with the company logo will go through this printer, including billing and correspondence," Castro said. "It will be our workhorse."

Although Castro's company is small, with just five computers on its network, its move to a color laser printer as its only printer may, after all, represent the way of the future. □

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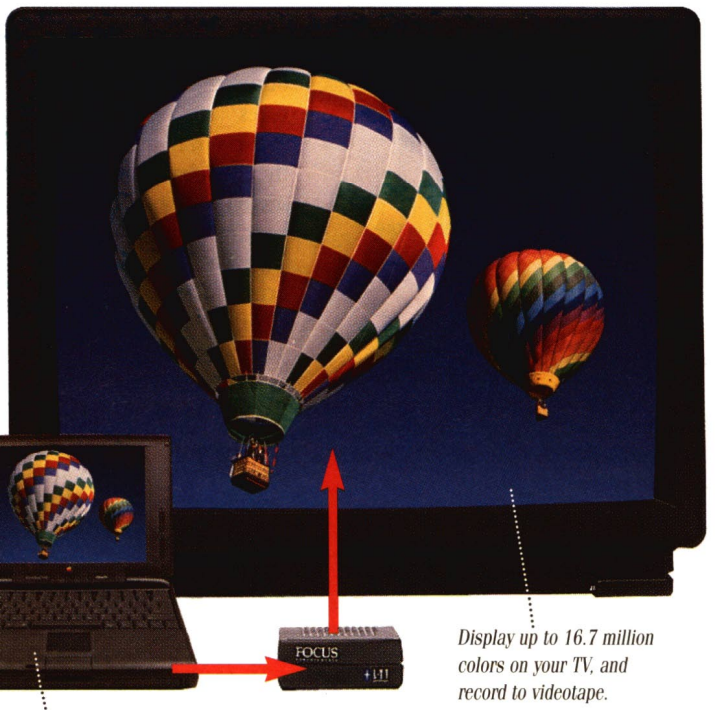

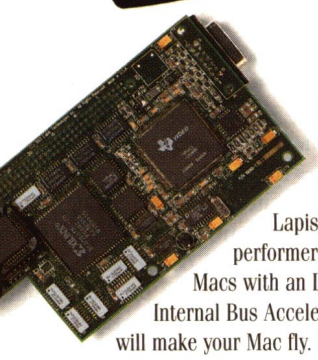

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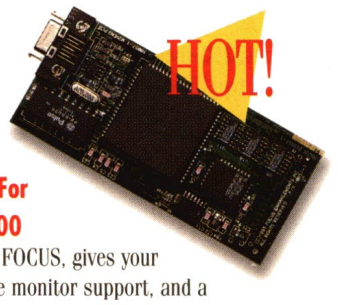

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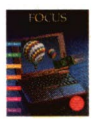

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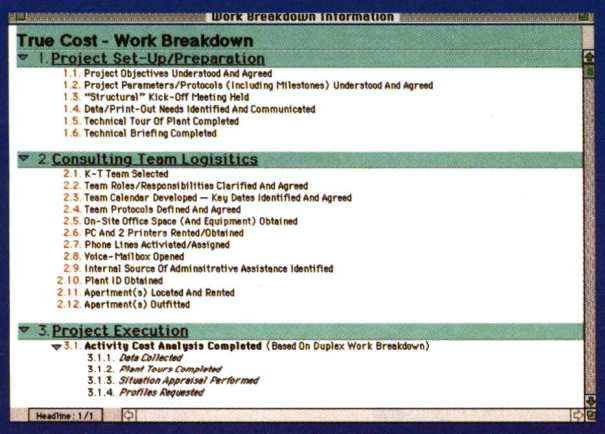
Work Breakdown Information
True Cost - Work Breakdown
1. Project Set-Up/Preparation
1.1. Project Objectives Understood And Agreed
1.2. Project Parameters/Protocols (Including Milestones) Understood And Agreed
1.3. "Structural" Kick-Off Meeting Held
1.4. Data/Print-Out Needs Identified And Communicated
1.5. Technical Tour Of Plant Completed
1.6. Technical Briefing Completed
2. Consulting Team Logisitics
2.1. K-T Team Selected
2.2. Team Roles/Responsibilities Clarified And Agreed
2.3. Team Calendar Developed — Key Dates Identified And Agreed
2.4. Team Protocols Defined And Agreed
2.5. On-Site Office Space (And Equipment) Obtained
2.6. PC And 2 Printers Rented/Obtained
2.7. Phone Lines Activated/Assigned
2.8. Voice-Mailbox Opened
2.9. Internal Source Of Administrative Assistance Identified
2.10. Plant ID Obtained
2.11. Apartment(s) Located And Rented
2.12. Apartment(s) Outfitted
3. Project Execution
3.1. Activity Cost Analysis Completed (Based On Duplex Work Breakdown)
3.1.1. Data Collected
3.1.2. Plant Tours Completed
3.1.3. Situation Appraisal Performed
3.1.4. Profiles Requested
Headline: 1/1

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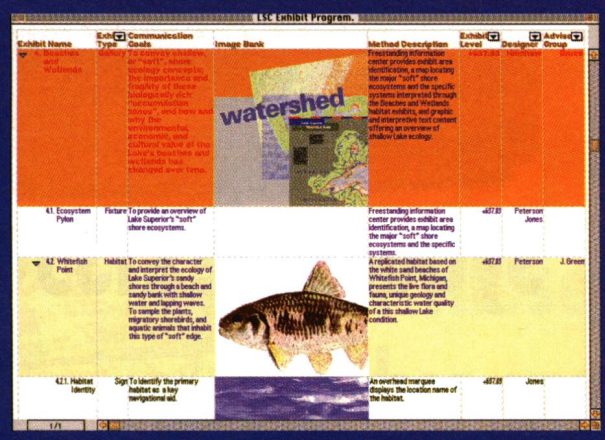

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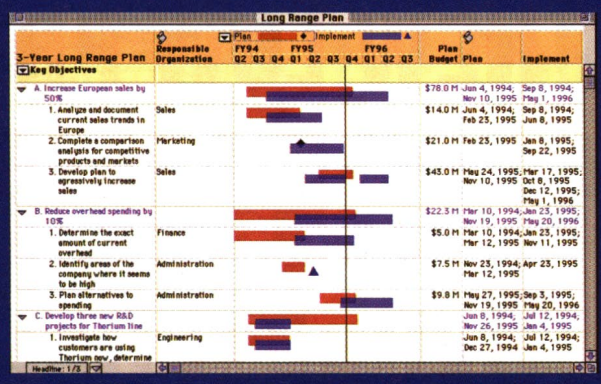
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FY95
FY96
Plan Budget
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Implement
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1. Analyze and document current sales trends in Europe
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2. Complete a comparison analysis for competitive products and markets
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3. Develop plan to agressively increase sales
B. Reduce overhead spending by 10%
1. Determine the exact amount of current overhead
Finance
2. Identify areas of the company where it seems to be high
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C. Develop three new R&D projects for Thorium line
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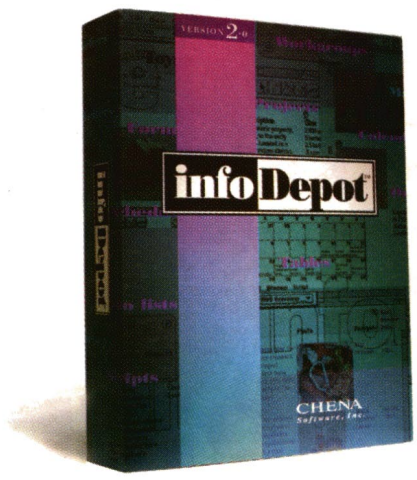

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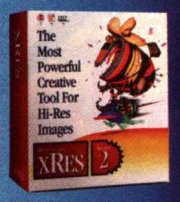

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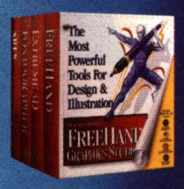

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MTROPOLIS ADD-ON

mFactory will release 3D Kit, an add-on with partial QuickDraw 3D support, in the second quarter.

mTropolis arrives: Powerful features at dizzying price

By Ben Long

High-rent multimedia app is easier to work in than Macromedia Director.

For several years, Macromedia Director has stood mostly unchallenged as the authoring system of choice for multimedia development. mFactory Inc. hopes to change all that with mTropolis 1.0, a full-featured, professional system for creating everything from simple presentations to interactive multimedia titles.

mFactory has, in fact, created a formidable foe in mTropolis: Boasting features not found in other Mac-based authoring systems, it takes a unique approach to programming titles. But there are some chinks in the armor. mTropolis has a number of rough edges — not surprising for a 1.0 release — and a nosebleed-inducing list price: $4,995, compared with Director's $1,199. However, for some professionals, mTropolis' powerful development features might outweigh its hefty sticker price.

mTropolis is completely object-oriented, sitting somewhere between the time-based world of Director and the object-oriented paradigm of Apple's HyperCard and Allegiant Technologies Inc.'s SuperCard. Each paradigm has its advantages, and mTropolis has taken some of the best of both worlds.

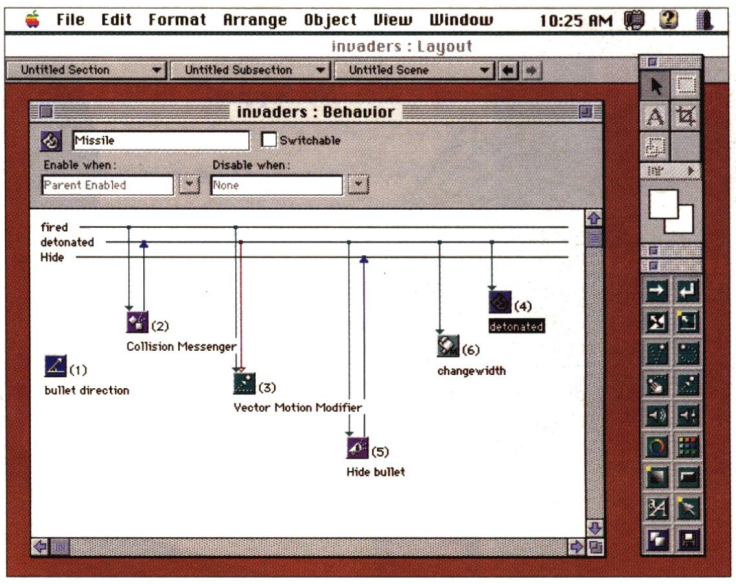
The application ships with players for Windows 3.1 and Windows 95, making it a complete system for authoring on both Mac and Windows platforms.

Projects in mTropolis are divided into sections, which are further divided into subsections and scenes. This approach lets you split your project into discrete areas. An interactive game set in a town, for example, might have separate sections for each house. Each house's rooms would be subsections. Finally, each room would be divided into scenes.

Common to each section is a Shared Scene. This functions as a background layer on which you can include elements that should be visible or usable within each scene.

An mTropolis project consists of a large window with pop-up menus along the top for navigating its different sections, subsections and scenes. Three floating palettes hold most of the authoring tools you'll need.

You build scenes by creating elements with a Rectangle tool, then use the Link command to fill the elements with still images, QuickTime movies or mToons (mTropolis' proprietary cel-animation format).



You can construct Behaviors in mFactory's mTropolis by associating icons that represent actions to different events. Here, different commands and modifiers are shown linked to three separate events.

Unfortunately, mTropolis 1.0 cannot handle QuickDraw 3D or QuickTime VR formats.

mTropolis' Section/Scene paradigm, combined with its object-oriented approach, makes the creation of complex, navigable environments much simpler than Director's clunky Score mechanism. Further, its Shared Scene capabilities make it easy to keep interface elements separate from changing content elements.

See mTropolis, Page 31

score card

mTropolis 1.0

mFactory Inc.
List price: $4,995
Overall value ♦♦♦♦

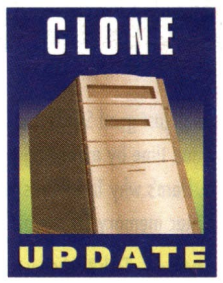
For the serious multimedia author who's looking for an easier development environment but doesn't want to sacrifice high-end features, mTropolis fills the bill. Employing a completely object-oriented approach to authoring, it provides for quick, icon-based creation of interactive titles. mFactory has paid close attention to the needs of multimedia developers and included a tool set that reflects this. In addition, mTropolis' object-oriented structure is ideally suited to the sorts of titles it is designed to create. Nevertheless, the program has the usual rough spots expected of a first release, including some missing scripting features. Although you'll be disappointed by the documentation, and possibly a little dizzy from the price tag, mTropolis delivers easy development and debugging and a great feature set.

Performance ♦♦♦♦
Features ♦♦♦♦
Ease of use ♦♦♦
Documentation/support ♦

Key ♦♦♦♦♦ *Excellent* ♦♦♦♦ *Very good* ♦♦♦ *Good* ♦♦ *Fair* ♦ *Unsatisfactory*

PowerCurve a fast clone, but needs better support

PowerCurve 601/120
Overall value ♦♦♦



Power Computing Corp.'s new PowerCurve 601/120, an entry-level system, is one more indication that the company can develop better Mac OS-compatible hardware than Apple itself — at least when its engineers have Apple designs to build on. But whether Power Computing can live up to the same high standard when it comes to supporting its customers is, at this point, an open question.

Borrowing the basics

Based on the logic board Apple developed for the Power Mac 7200, the PowerCurve features three PCI slots, four DIMM (dual in-line memory module) sockets that can hold up to 256 Mbytes of dynamic RAM, room for up to 4 Mbytes of video RAM and a standard array of Mac ports. Its low-profile case (which isn't at all curvy, despite the name) is attractively proportioned and even easier to get into than Apple's flip-top design. (Later this year Power Computing will also offer the PowerCurve in a taller desktop case with additional drive bays.)

The PowerCurve's biggest advantage, compared with its Apple ancestor, is speed: At 120 MHz, its PowerPC 601 processor leaves the 7200/75 in the dust (see benchmarks, Page 33). Besides, the PowerCurve should be easier to upgrade to still faster processors in the future. Apple's 7200 boards have soldered-on CPUs, so upgrading would require replacement of the entire motherboard. But Power Computing's engineers, adapting a technology Apple currently uses only in higher-priced models, put the PowerCurve's CPU on a removable daughtercard.

Although CPU cards from current Apple systems or Power Computing's own PowerPC 604-based PowerWave line won't work in the PowerCurve, Power Computing said that its modified cards will work in the other systems and that it expects Apple and other suppliers to adopt a design compatible with both the PowerCurve and older systems for the future.

The PowerCurve, contrary to what its manual says, comes with 2 Mbytes of VRAM standard — twice as much as a stock 7200. The extra memory enables the system to manipulate twice as much video data at a time, boosting display performance in some areas, notably text scrolling. It also supports more color depth at higher

See PowerCurve, Page 33

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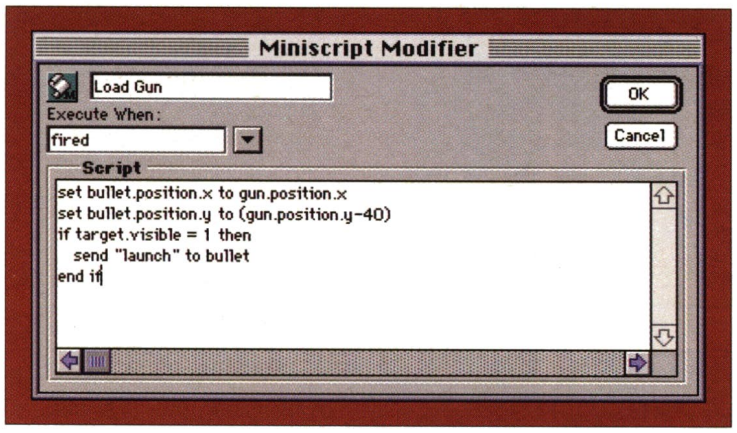

You can attach simple scripts to an object. In addition to manipulating variables and changing the state of an object's parameters, you can build basic "If ... then" constructs for performing conditional branching.

mTropolis

From Page 29

Unlike a procedural scripting system, where programming code is executed in a predetermined order, mTropolis uses an object-oriented system, in which each element in a project has code attached to it. This code can be triggered by messages sent from other elements or the user. If you've used object-oriented programming languages such HyperTalk, Lingo or C++, you'll feel right at home with mTropolis.

Just as a HyperCard button or Director cast member can have a script associated with it, any element in an mTropolis project can have commands and modifiers attached to it. These are represented by small square icons that you drag from a palette to the desired element. Each command or modifier is then configured through a dialog box.

For example, if you want an image of a car horn to honk every time the user clicks on it, you would drag a Sound Effect modifier into the image. Double-clicking on the effect's icon brings up the configuration dialog box, where you can specify the sound and the event that triggers it.

You can drag as many command or modifier icons as you want onto an element. This lets you configure the element to perform different activities in response to different messages.

Interacting without a script

Unlike Director, where all interactivity must be scripted, mTropolis' simple dialog boxes make it possible to create complex behaviors and interactivity without scripting.

The program's included commands and modifiers are impressive. Standard commands for showing and hiding elements and moving from one scene to another are joined by modifiers for performing collision and boundary detection, vector- and path-based movement, and palette changes.

mTropolis supports all of the expected events, such as mouse clicks and keyboard actions. In addition, you can specify your own Author messages for triggering custom events. Messages can be sent to any part of the project's structural hierarchy. As with any true object-oriented environment, the messages will filter down the hierarchy to each child element.

You can group collections of commands and modifiers into Behaviors, which can be activated and deactivated by specific messages. This makes it easy to attach complex activities to simple events. Further, once you've built a Behavior, you can copy it to any other element, letting you easily reuse code.

Some scripting required

Obviously, mFactory was not able to include a command for every possible action. To perform more-complex tasks, the MiniScript modifier lets you attach tiny bits of scripting code to an object.

You can use MiniScripts to change the attributes of an element, perform mathematical operations, send messages or perform conditional tests in the form of simple "If ... then" statements or manipulate variables. As with any other message or modifier, MiniScripts are triggered by messages sent from the system or other elements in a project.

The biggest drawback to mTropolis' scripting system is its rigid adherence to an object hierarchy. It is not always possible to send a message directly to its intended recipient. Instead, you must send a message to a higher point in the hierarchy and let it trickle down to your desired target. This can require some extra thought and planning because you'll need to be sure that no other handlers intercept the message and that messages arrive at their respective locations in the correct order.

Several structures and commands are missing. It would be nice to have some type of While structure so you could perform an operation repeatedly while an event is taking place. Although events can be scheduled to occur at particular intervals, there's no way to have events occur when the system is idle. Also, you can't create new instances of an object or destroy an existing object. mFactory said that new Spawn and Kill commands will make this possible. These commands, support for QuickTime VR and other new features will be included in a free Version 1.1 update that will ship in March.

mTropolis ships with a full-featured API for programmers who want to add new functions to their mTropolis toolbox. Users experienced with HyperCard external commands or Director XObjects will find the transition to the mTropolis interface easy.

The buildup

When you've completed your project, the Build Title command writes it as an mTropolis Player document. mTropolis cannot create stand-alone applications; a 765-Kbyte player application is required.

Performance of the built files is pretty much the same as within the mTropolis environment, although we occasionally found that the collision- and boundary-detection functions were a little less accurate in the player.

Overall performance was impressive on our Power Mac 7500, but not flawless. With several animations and multiple tracks of audio playing, we occasionally experienced slight pauses. Turning off AppleTalk reduced, but did not eliminate, these problems.

Documentation and support

If mTropolis were a $500 program, its documentation would merely be bad. At $4,995, it's a disaster.

Two slim three-ring binders are the extent of the documentation. The Developer Guide presents a slight tutorial chapter after 40 or so pages of tedious theory, most of which is marketing hype. The Reference manual suffers from skimpy examples and a poor index.

Fortunately, the mTropolis CD includes a number of well-crafted projects which, when studied, provide good lessons in creating specific features. Once you're up and running, though, you may want to trash these files, as they take up more than 40 Mbytes of hard disk space. The actual development environment requires only about 4 Mbytes.

mTropolis' price tag does include a royalty-free license to distribute your titles and the mTropolis runtime library. However, Macromedia includes the same offer with Director. And in addition to Director's built-in paint and animation capabilities (mTropolis includes no content tools), Macromedia offers the $1,999 Director Multimedia Studio, an excellent bundle of Extreme 3D, xRes 2.0, SoundEdit 16 2.0 and Deck II 2.5.

Conclusions

While some developers might be worried about adopting the first release of a new system, mTropolis is full-featured and stable enough for any authoring task we can think of. The program has some rough edges and a few missing features, and the lack of QuickDraw 3D support is disappointing. But for an initial release, mTropolis is impressive.

If you're on a budget or starting from scratch and need content as well as authoring tools, go with the Director Multimedia Studio. You'll get a competent authoring system and some excellent content tools.

However, if you're a professional multimedia developer with complex titles to author and a healthy budget, choose mTropolis. For us, it comes down to its object-oriented environment; we found it much more comfortable to work in than Director's time-object mixture. Further, mTropolis' tool set reflects the needs of developers. In adopting the new system, even experienced programmers might need to put in a bit of time upfront, but the time — and money — invested is well worth it.

mFactory Inc. of Burlingame, Calif., can be reached at (415) 548-0600; fax (415) 548-9249; info@mfactory.com; http://www.mfactory.com. □

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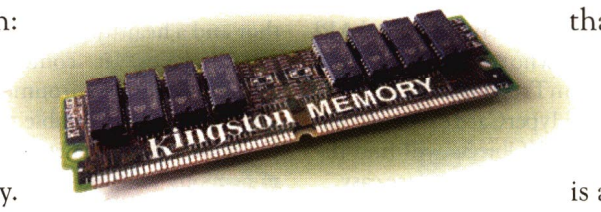

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PowerCurve

From Page 29

resolutions, including 24-bit color at standard 14-, 15- and 17-inch resolutions, whereas a stock 7200 delivers only 16-bit color. And like other Power Computing systems, the PowerCurve has a VGA connector in addition to a standard Mac display connector, so you can connect almost any monitor without worrying about adapters.

Finally, the system comes with a 105-key keyboard and an impressive software bundle, which now includes Nisus Writer 4.1.3 and a 60-day demo version of Insignia Solutions Inc.'s SoftWindows 2.0.

Penny wise

Compared with recently reduced street prices on Apple's Power Macs, the PowerCurve is priced competitively but not particularly aggressively. The minimum configuration — 8/850 with keyboard but no CD-ROM drive — is $1,849; with CD-ROM it's $2,149. In contrast, at many mail-order discounters a Power Mac 7200/75 in 16/500/CD-ROM configurations are advertised for around $1,700. In other words, you'll pay an appreciable premium for the PowerCurve's extra performance, CPU upgradability, additional VRAM, keyboard and software bundle.

In fact, beefier PowerCurve configurations are scarcely less expensive than a Power Mac 7500: A 16/1GB/CD-ROM PowerCurve costs $2,513, while similarly configured 7500s are widely advertised for around $2,500. With a 7500 you'll have to pay extra for a keyboard and you don't get much software, but you do get several features the PowerCurve lacks, notably video-in and a separate internal Fast SCSI bus. And the 7500 delivers superior performance, since the 128-bit data path and memory interleaving of its logic board more than compensate for its slower (100 MHz) clock speed.

Regrettably, in our view, Power Computing has chosen to follow Apple's example and make Level 2 cache an optional extra ($234 for 256 Kbytes or $339 for 512 Kbytes), and according to the company, few buyers are choosing to pay the price. This is false economy: Without a secondary cache these systems' processors are frequently left spinning their wheels waiting for data. When we added 256 Kbytes of cache, the PowerCurve's scores on MacBench 3.0's Processor test jumped 39 percent, while the Graphics Mix score improved an amazing 60 percent (see benchmarks, right).

Fly in the ointment

In terms of performance, features and upgrade capability, the PowerCurve is a clear winner. In recent months, however, Power Computing has been besieged with customer support problems, confirmed by our own experiences, that make us pause before recommending the machine. On-line forums are filled with horror stories from dismayed customers reporting interminable waits on hold and rude or indifferent help. In two calls to technical support, we waited on hold for 16 and 22 minutes before reaching a technician.

Even worse problems, confirmed by

See PowerCurve, Page 35

MacWEEK MacBench 3.0 Labs

PowerCurve 601/120

Power Computing's PowerCurve 601/120 is based on Apple's Power Mac 7200, but with a much faster processor. Accordingly, it outperformed the 7200/75 on all of our tests. The PowerCurve also holds its own against the higher-end 7500.

Power Mac-native CPU speed

Processor	Longer is better	6100/60*	Index
PowerCurve 601/120			13.85
Power Mac 7500/100			17.45
Power Mac 7200/75			11.05

Processor speed in decimal math

Floating Point	Longer is better	6100/60*	Index
PowerCurve 601/120			18.53
Power Mac 7500/100			16.48
Power Mac 7200/75			11.99

Disk speed typical of general-purpose software

Disk Mix	Longer is better	6100/60*	Index
PowerCurve 601/120			15.21
Power Mac 7500/100			15.77
Power Mac 7200/75			10.14

Disk speed typical of QuarkXPress and Adobe Photoshop

Publishing Disk Mix	Longer is better	6100/60*	Index
PowerCurve 601/120			14.65
Power Mac 7500/100			15.20
Power Mac 7200/75			8.91

Graphics speed typical of general-purpose software

Graphics Mix	Longer is better	6100/60*	Index
PowerCurve 601/120			17.16
Power Mac 7500/100			16.72
Power Mac 7200/75			14.89

Graphics speed typical of QuarkXPress and Adobe Photoshop

Publishing Graphics Mix	Longer is better	6100/60*	Index
PowerCurve 601/120			16.39
Power Mac 7500/100			13.58
Power Mac 7200/75			14.73

Test configurations: All systems were tested with System 7.5.2. Monitors were set to 640-by-480-pixel resolution in eight-bit color. The Power Mac 7200 and 7500 had 16 Mbytes of RAM. The PowerCurve had 80 Mbytes of RAM.

*MacBench's score compares speed to a Power Mac 6100/60, which receives a 10.

MacWEEK MacBench 3.0 Labs

PowerCurve 601/120 with Level 2 cache

Power Computing doesn't include Level 2 cache as part of the PowerCurve's standard configuration, but we'd recommend it as a low-cost solution for better performance. When we added 256 Kbytes of Level 2 cache, the Processor and Graphics Mix scores shot up dramatically.

Power Mac-native CPU speed

Processor	Longer is better	6100/60*	Index
PowerCurve w/cache			19.32
PowerCurve w/out cache			13.85

Graphics speed typical of general-purpose software

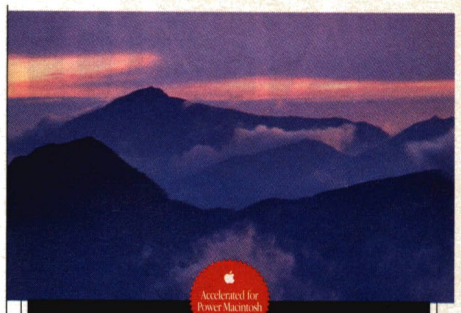
Graphics Mix	Longer is better	6100/60*	Index
PowerCurve w/cache			27.45
PowerCurve w/out cache			17.16

Graphics speed typical of QuarkXPress and Adobe Photoshop

Publishing Graphics Mix	Longer is better	6100/60*	Index
PowerCurve w/cache			27.03
PowerCurve w/out cache			16.39

Test configuration: Tests run with System 7.5.2 with 80 Mbytes of RAM and monitor resolution of 640 by 480 pixels in eight-bit color.

*MacBench's score compares speed to a Power Mac 6100/60, which receives a 10.



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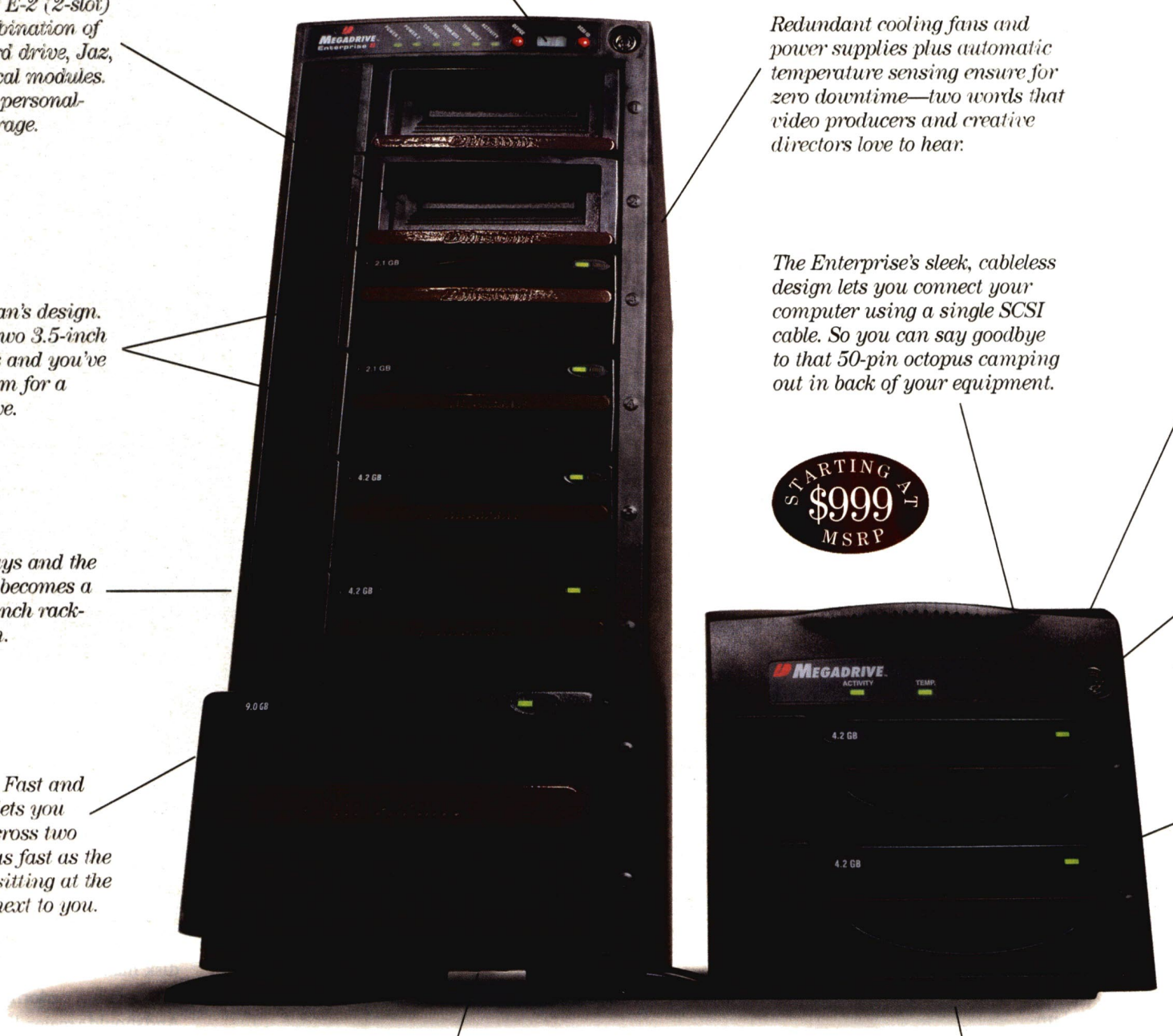

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CPU QUICK FACTS

Company	Power Computing Corp.
Model	PowerCurve 601/120
CPU	120-MHz PowerPC 601
Configuration	32/1 GB/4x CD custom configurations available
Slots	Three PCI
Memory	Four DIMM slots
Video	2 Mbytes of VRAM standard (24-bit color at up to 832 x 624 pixels; 16-bit color at up to1,152 x 870 pixels; eight-bit color at up to 1,280 x 1,024 pixels), expandable to 4 Mbytes of VRAM (24-bit color at up to 1,152 x 870 pixels), VGA and standard Mac video ports built in.
MacBench 3.0 CPU score	13.85
Bundled hardware	105-key keyboard, mouse
Bundled software	System 7.5.2, ClarisWorks 4.0, Quicken 5.0, Now Contact and Up-To-Date 3.5, Now Utilities 5.0.1, SoftWindows 2.0 (60-day trial), FWB Hard Disk ToolKit Personal Edition 1.7.5c and CD-ROM ToolKit 1.5.7, Bitstream Creative Collection fonts, America Online 2.6, Nisus Writer 4.1.3, four home/education CD-ROMs
Additional features	Two GeoPort-compatible serial ports; 10BASE T and AAUI (Apple attachment unit interface) Ethernet connectors; 1.4-Mbyte SuperDrive floppy drive; one front-accessible 5.25-inch bay and one internal bay for one 3.5-inch drive (used for CD and built-in hard drive, respectively – no free bays available if you get the CD)
Price	$3,022 for a 32/1 GB/CD configuration; $3,256 with 256-Kbyte Level 2 cache. Custom configurations start at $1,849

PowerCurve

From Page 33

Power Computing, involve sales and service. Orders have been repeatedly lost, delayed or garbled; customers calling to check on the status of their orders have been unable to get accurate information; promised call-backs and shipments never happen. Our own experience with servicing and reordering of defective machines — most notably the older Power 120 model with a defective heat sink — sadly backs up these reports.

Power Computing said it is moving urgently to turn the situation around and has beefed up its support staffs.

Conclusions

While the PowerCurve does not represent a price/performance breakthrough, it appears to be a very good piece of engineering — we think it has the potential to become the kind of mainstream workhorse the Mac IIci was in its day. But as much as we like the PowerCurve and hope to see Power Computing succeed, we can't recommend the machine wholeheartedly until we are satisfied that the company has cleaned up its act. That's why we are awarding the PowerCurve only a "good" rating; without this cloud hanging over the company, the system would easily merit a "very good."

Power Computing Corp. of Round Rock, Texas, is at (512) 246-7807 or (800) 999-7279; fax (512) 388-6799; info@powercc.com; www.powercc.com. — *By Henry Norr*

IN BRIEF

OneWorld Combo

Global Village rounds out communications server

Overall value ♦♦♦♦

Global Village Communication Inc.'s $2,099 OneWorld Combo is the only communications server on the market to combine remote access, network modem pooling and fax capabilities in a single product. The company recently upgraded the server with receive-fax capabilities, making it the all-in-one solution Global Village has claimed it to be.

The OneWorld Combo is a two-port server geared toward small to medium-sized businesses but is also well-suited for smaller departments within a large organization. Global Village has long worked to make its products easy to install, manage and use, and the OneWorld Combo server fits this profile.

Global Village's elegant GlobalFax software makes faxing easy for novices, yet it caters to advanced users with features such as envelopes and scheduling. It's also easy to maintain both private and shared address books, making it well-suited to network deployment.

To configure the server to receive faxes, you must specify a Mac on the network to serve as the receive station or have the OneWorld server select one automatically. When a fax is transmitted to the server, it is automatically routed to the receive station. If the receive station is not available, the fax will be sent to a specified alternate station.

Once the fax has been received, it can be routed to a shared folder on a network server, forwarded using PowerTalk or sent as an e-mail attachment. Received faxes can also be automatically directed to a printer, but unless you save them on a Mac, you lose the opportunity to work with the electronic copy using OCR software. We found that receiving faxes did not cause noticeable degradation in the performance of the receive station.

Jack of all trades

In addition to its faxing capabilities, the OneWorld Combo server can be used to pool modems for outward calling or act as an Apple Remote Access (ARA) server supporting both ARA 1.0 and 2.0 clients. (You must supply the ARA client software.) The unit we tested had two Global Village PowerPort Platinum modems installed; we had no trouble making V.34 (28.8 Kbps) connections on both outgoing and incoming calls. We also did not notice any negative impact on performance when both modems were in use simultaneously.

Current Combo users can easily upgrade to the latest release of the OneWorld software, since Global Village is offering a free upgrade through March 31 ($99 thereafter.) Global Village found a conflict between its older software and the serial direct memory access driver on new Macs, but this has been fixed with the latest software release. (Global Village created a work-around by changing the load order of some extensions.)

Documentation and support

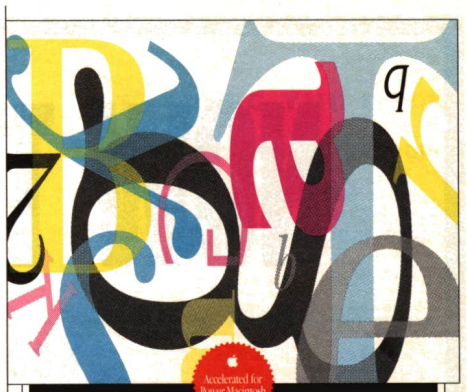
Included with the OneWorld Combo server are an Administrator's Guide, Fax User's Guide and Network Modem User's Guide. Each server licenses the GlobalFax software for 30 users and includes quick reference guides for each user. On-line help is provided for the GlobalFax software but not for the management application — a surprising omission.

Technical support is available via phone, e-mail and on-line services. We received prompt answers to questions placed via phone and e-mail — an encouraging sign, since Global Village has often had a reputation for providing inadequate support.

Conclusions

Small and mid-size organizations looking to add any sort of communications services to their network need look no further than Global Village. The OneWorld Combo server is truly unique in its combination of network modem, remote access and fax in a single product that can be installed and maintained with minimal effort. There are a few features we'd still like to see, such as the capability to schedule when services are available on a specific port, but on the whole it is a very complete product that is capped off by Global Village's top-notch fax software.

Global Village Communication Inc. of Sunnyvale, Calif., is at (408) 523-1000; fax (408) 523-2407; http://www.globalvillage.com. — *By Jonathan A. Oski*



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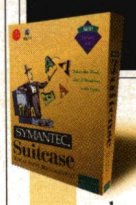

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STACKING THE DECK

Nearly 4.8 million PC Cards are expected to ship to the portable market by year-end.

— AP Research Inc.

PC CARDS

Built-in slots, more functions: PC Cards have come of age

By April Streeter

Pocket-size PC Cards have come far from their PCMCIA roots. And while they have expanded functions, they have a way to go before they grab users' hearts as the perfect portable peripherals.

Users have accepted PC Cards with foresight, trepidation and high hopes.

"I had to go through some hoops to get [Multi-tech's card] running the first time," said Benjamin Shoesmith, a systems engineer at Deere & Co. in Waterloo, Iowa. "But it was the one I tested that showed very little performance degradation no matter what brand of modem it was connecting to."

It's been a few short years since credit card-size peripherals following Personal Computer Memory Card International Association standards first began to circulate in the portable computer world. In that time, the percentage of all new laptops shipping with one or more slots to accommodate the cards has zoomed to more than 85 percent, according to figures from market analysis company AP Research Inc. of Cupertino, Calif.

Slim and trim

Since they were first introduced, PCMCIA cards have slimmed down and shaped up; even the name became sleeker when last year the "MCIA" was dropped and they were designated simply PC Cards. A revamped standard introduced at the same time as the name change also provides for new features such as variable voltage to conserve battery power and a 32-bit data path.

Apart from the PC Card slot available for Newton users, the Apple side of the PC Card market has been slower to develop, as PowerBooks did not ship with a PCMCIA slot until last year. (The older PowerBook 500 series had an optional PCMCIA "card cage," which proved to be unpopular.) The slow start may have been a boon to PowerBook users, however; initial releases to the world of Intel-standard PC laptops were plagued with compatibility issues and minor annoyances, such as cards that overheated or even burned out.

The extra lead time gave vendors aiming at the Mac market time to remedy these issues. In the past few months, more than a dozen third-party vendors have turned out PC Cards (following the older Type II designation) with all sorts of communications functions, including Ethernet LAN adapters, high-speed fax modems, and cellular and wireless modules.

"I'm used to dealing with [Intel-standard] PCs, and I found setting up this card to be unbelievably easy," said Eric McKinlay, a development manager at Claris Corp. in Santa Clara, Calif. McKinlay recently purchased a PC Card Ethernet adapter from Dayna Communications Inc. of Salt Lake City for his PowerBook 5300c.

A recent trend is to combine Ethernet connectivity with a fax modem in a single card. Global Village Communication Inc. of Sunnyvale, Calif., was the first to ship one of these dual-function adapters in September, the 28.8-Kbps modem and 10BASE T Ethernet PowerPort Platinum Pro PC Card. Dayna shipped a multifunction card for PowerBooks in February, with Farallon Computing Inc. of Alameda, Calif., and Asanté Technologies Inc. of San Jose, Calif., planning to follow suit later this year.

Save a slot

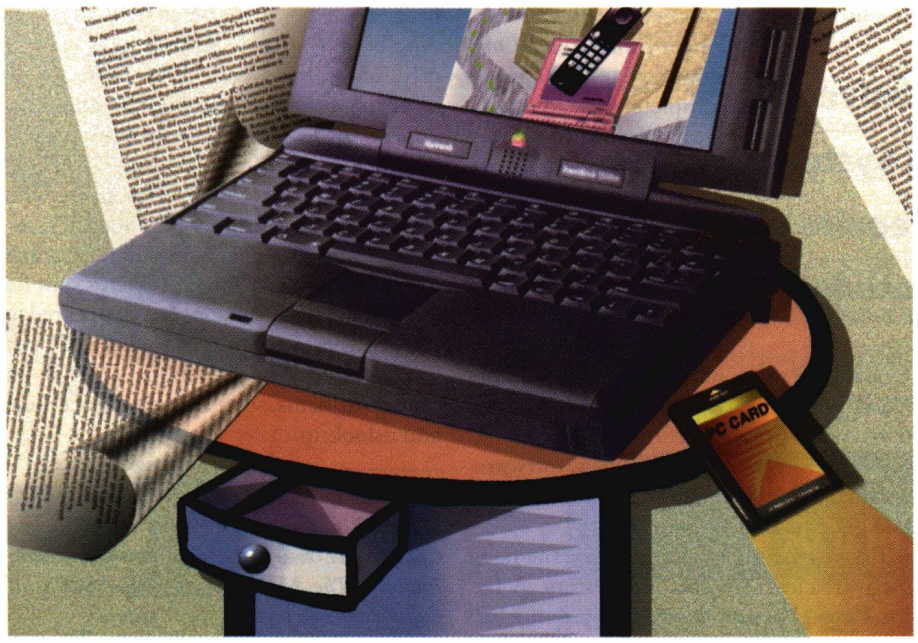
Deere's Shoesmith is open to the idea of "saving" a PC Card slot by combining functions in a multifunction card, but only if he's assured a best-of-breed product. He did extensive PC Card testing before choosing modems and adapters for the more than 100 PowerBook 5300c laptops used at Deere. He looked at modems from Global Village; U.S. Robotics of Skokie, Ill.; and Multi-Tech Systems Inc. of Mounds View, Minn. He also looked at Ethernet adapters from Farallon and Asanté.

David Hamilton, new media coordinator at Guy Gannett Communications in Portland, Maine, does need both modem and Ethernet functionality, but he said he believes that stacking up functions on one card reduces overall reliability, so he prefers to have separate cards for separate processes.

"I don't want to put all my eggs in one basket and risk losing both functions if either the Ethernet or the modem portion of the card goes down," he said.

This led to a slight problem for Guy Gannett users who need to run cards in both slots at the same time. Hamilton purchased a number of CruiseCard 28.8 modems from Megahertz, a division of U.S. Robotics Corp., of Salt Lake City. For Ethernet adapters he used Dayna's CommuniCard. But Megahertz's pop-out X-Jack connector and the cord to Dayna's CommuniCard bump into each other if they are simultaneously plugged into a PowerBook 5300c.

See Solutions, next page



PAMELA HOBBS

ILLUSTRATION BY GORDON STUDER, PHOTO BY STEVEN BORNS

MACINTOUCH

RIC FORD

Taking stock of secret update to the Mac OS

Microsoft Corp. has its problems, but it did a lot of things right with Windows 95. Perhaps the smartest tactic of all was getting beta copies out to masses of customers for testing and feedback, snagging extra revenue in the process by charging for the prerelease software.

Apple, by contrast, has not even *announced* System 7.5.3 as I write this, even though its release is imminent. A select few developers have been testing this major update under nondisclosure agreements, but it will ship without ever being tested by a significant fraction of the Macintosh community. Mac customers are ready, willing and able to help, but Apple is not working with them.

The release of System 7.5.3 will be an interesting test of Apple quality control, but regardless of the results, the company needs to get serious about a partnership with its customers for Copland. A deluge of customer input on betas would be valuable information, even if managing it means extra work. (Developing a few advanced tools for the job might help advance the Mac platform.)

I do not see how Copland can be successful without Apple collecting and intelli-

See MacInTouch, next page

SOLUTIONS

From previous page

Because his users need concurrent network connectivity and dial-out capability, Hamilton keeps the Megahertz PC Card modems and Dayna Ethernet adapters slightly separated by inserting a matchbook between the two.

"It's jury-rigged, I admit it," he said. But he prefers this approach to using a multifunction card. He said he also believes it is the responsibility of various PC Card vendors to make sure that cards can work together elegantly when plugged in at the same time.

David VanMiddlesworth, network manager for the Anderson School of Business at the University of California at Los Angeles, said he sees no problems with multifunction cards and has never had a failure with the Global Village PowerPort Platinum Pro PC Card he chose to recommend to Anderson's PowerBook users.

"I'd been concerned about overheating," he said. "But this card has been very stable." VanMiddlesworth tested other Ethernet and fax-modem cards from the major vendors but found Global Village's card to have the easiest installation process.

"With students you don't want to spend hours on the install," he said. "This one, we just plug it in and it basically does everything by itself."

Swift and compact

Jim Manley, president of software developer Swiftwater Systems Inc. of Swiftwater, Pa., had a different set of issues when his company's major client began buying PowerBook 5300 models as its standard portable.

"They're a Mac-only shop, and the sales-force automation application was originally implemented on PowerBook 170 [machines]," Manley said. When certain data was required, the application automatically dialed in from the field to the corporate database via internal modems in the 170 machines. On newer 5300c PowerBooks, however, the application could not sense the modem in the PCMCIA slot.

Manley briefly considered recommending external modems but worried that sales people would reject them as clunky. "Their solution has to be compact and it has to be plug-and-play," he said. "The less the users have to mess around, the better."

Swiftwater eventually rewrote the relevant portion of the application and beta tested Megahertz's CruiseCard. During road testing, Manley discovered that the PC Cards' small size makes them easy to misplace — he lost one of his client's cards.

Consequently he counsels users to consider them a static peripheral. "I propose to users that they just keep it in the machine at all times," he said.

Once the initial compatibility hurdle was cleared, Manley said, the 100 CruiseCards purchased by his client, a major pharmaceutical manufacturer, have operated pretty much problem-free. He also praised Megahertz's addition of a digital line protection feature in the CruiseCard, which keeps traveling users from burning out PC Card modems inadvertently plugged into higher-current, digital phone lines.

Deere's Shoesmith said he doesn't mind downloading needed driver software to a PowerBook every time he installs a new modem on the company's laptops. When testing Ethernet adapters, however, Shoesmith discovered performance snags, especially when comparing 5300 machines using PC Card adapters with older PowerBooks with built-in Ethernet.

"PC Cards' network performance seems pretty poor," he said. Eventually he chose Farallon's EtherWave card and said so far he is impressed with Farallon's efforts to help him boost performance.

> "I don't want to ... risk losing both functions if either the Ethernet or the modem portion of the card goes down."
>
> — *David Hamilton*

Vast new world

Knowledgeable network managers can make certain that PC-destined PC Cards work on the Mac. And when Apple ships its next round of laptops, more users may be able to pick and choose from among all the PC Cards offered to the Windows world.

Apple last year contracted software developer SystemSoft Corp. of Natick, Mass., to rewrite the system software needed for PowerBooks to use PC Cards. When it ships with Apple's next round of PowerBooks later this year, the new software will implement PC Cards' most recent specifications and allow for greater PowerBook-PC Card compatibility, according to SystemSoft.

"The benefit for PowerBook users is they should be able to plug in any PC Card and have it work," said Apple spokesman Paul Sereiko. "That's what we're striving for."

These cross-platform PC Cards could be a great boon for users such as Shoesmith. Deere's preferred portable is the PowerBook, but at least one department is implementing a Windows client-server application and will standardize on PC laptops instead. "If we could have [the MultiTech modem] work on both platforms that would be the icing on the cake," Shoesmith said.

Coming attractions

Beyond the current crop of combination Ethernet and modem cards, analyst Andy Prophet of AP Research predicts ISDN (Integrated Services Digital Network) will be the next function to appear in cards.

"I think ISDN is a sleeper, a very important market for PC Cards if certain barriers can be overcome," Prophet said. Apart from figuring out how to put the necessary ISDN components into the small PC Card form, vendors must simplify the difficult setup and installation procedures that have always hampered user acceptance of ISDN.

Prophet said he believes that those hurdles will be cleared, and single- and multi-function cards will ship to the tune of 1.8 million units by the end of the century. While an ISDN PC Card hasn't yet been announced for PowerBooks, Dayna product manager Gary Hogge said his company is considering producing one.

PC Cards used to provide data security, similar to the SmartCards produced by vendors such as Security Dynamics Inc. of Cambridge, Mass., could also find favor in the market, Prophet said. And once SystemSoft's PC Card software upgrade reaches PowerBooks, vendors can work on implementing the new CardBus interface, which will help bring digital video to PowerBook users on a PC Card.

Even further in the future, PC Card slots may begin to show up on desktop Macs. Prophet said he can't be sure desktop hardware vendors will build slots into newer models, but recent trends such as the Department of Defense's decision to make a PC Card slot a necessary purchase feature make it likely. □

MACINTOUCH

From previous page

gently processing this kind of feedback from large numbers of customers. If you agree, let Apple know before it is too late. Apple Customer Relations is at (800) 776-2333. (Ike Nassi heads System Software Technology.)

To be perfectly fair, Apple has taken one small step in this direction already. The Customer Quality Feedback page on the Internet solicits customer participation in product development. The page is located at http://support.info.apple.com/cqf/cqfdatasheet.html.

Mr. Fix-it

Names might change before announcement, but the planned packaging of the new Mac OS is a bit confusing as I write this. New Macs are to ship with a System 7.5.3 configuration that supports only those models. This nonuniversal System 7.5.3 is reportedly finalized.

Bringing other Macs to System 7.5.3 requires installing System 7.5 Update 2.0 on top of System 7.5, 7.5.1 or 7.5.2. Final qualification of this update package is running behind qualification of the preinstalled System 7.5.3 package.

Creating a universal version of System 7.5.3 to support the entire Mac family will require a special procedure. You must perform a custom, clean installation of System 7.5.0 (not any later System), then perform a custom installation of System 7.5 Update 2.0 on top of that. If Apple's Installer scripts and Mac OS software are robust, this should produce a System 7.5.3 configuration that works on any model from the Mac SE on. (The new software apparently lacks support for the Mac Plus.)

> **Creating a universal version of System 7.5.3 will require a special procedure.**

One other tip may help smooth the update process for System 7.5 and Open Transport (along with doing "clean" installations): Reset parameter RAM after the installation (see 09.11.95, Page 56).

Several readers also noted other PRAM issues recently. Replacing the PRAM battery on the motherboard brought some LC and Performa models back to life when it appeared that their monitor ports or motherboards were no longer functioning. One Power Mac 7200 went completely dead until the battery was removed for a while then replaced, bringing it back to normal.

Seed feedback

My small sample of feedback on System 7.5 Update 2.0 notes one possible bug in late "seed" versions, which may create problems with graphics file conversions. A few other reports on the new software claimed noticeable speed improvements and good reliability.

Pre-release documentation for the new software clears up one old mystery. A fix for Type 11 errors went into System 7.5.2 and remains in System 7.5.3. This bug was a major problem for QuarkXPress users at one time.

Open Transport 1.1 continues to foster good reports in its final test releases, but there are some issues that have not been resolved. LaserWriter Bridge, an Apple utility upon which many people rely, has been incompatible with Open Transport to date, although a patch may appear eventually. Other utilities, such as MacTCP Monitor and MacTCP Watcher, fail partially or completely with the new networking code. Open Transport 1.1 may include a compatibility switch to handle some of these problems, but no Open Transport versions have appeared to replace these utilities. We also still lack basic networking functions offered on other platforms, such as Unix's traceroute and nslookup. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

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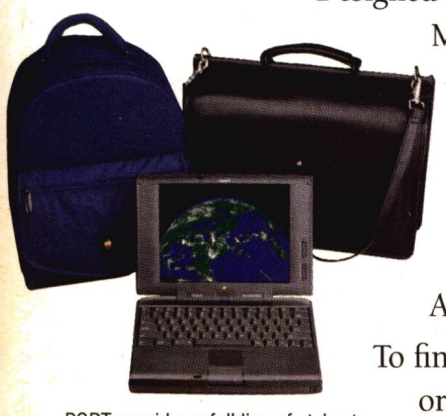

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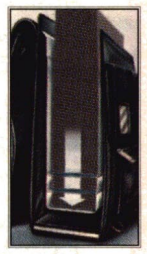

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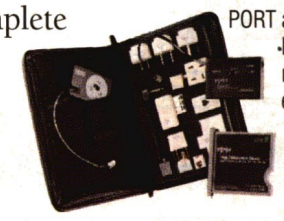

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APS Q 4.0 Quantum Atlas XP34300	**4101MB** 7200 rpm	Power Matched for Power PC; MacUser ZD LABS ★★★★½	1199.95	1299.95
APS ST 4.0 Seagate ST 15150N	**4094MB** 7200 rpm	Power Matched for Power PC; MacUser ZD LABS ★★★½; ◆◆◆◆	1199.95	1299.95
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APS MS 4.0W Micropolis 3243W	**4064MB** 7200 rpm	Power Matched for Power PC	1099.95	1199.95
APS Q 4.0W Quantum Atlas XP34300W	**4101MB** 7200 rpm	Power Matched for Power PC	1299.95	1399.95

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APS MS 4.0AV Micropolis 3243AV	**4064MB** 7200 rpm	Power Matched for Power PC	1099.95	1199.95
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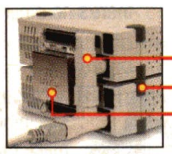

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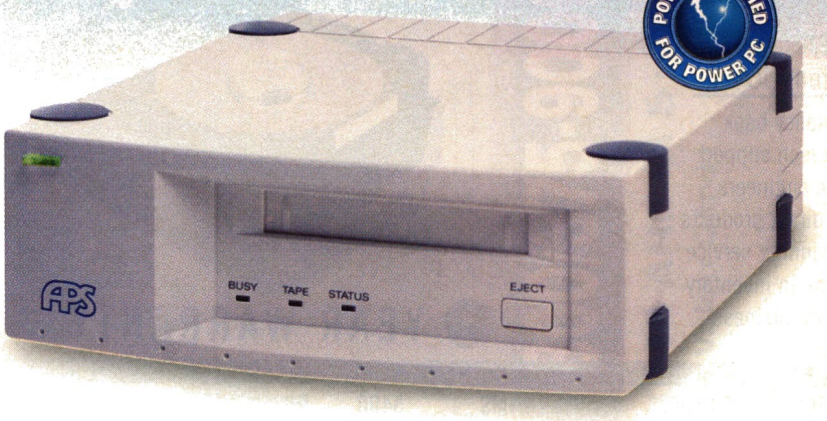

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The APS SQ 3270 packs an incredible 255MB onto a 3.5" SyQuest cartridge. This drive is a high-performance storage winner with sustained transfer rates above 1.7MB per second and average seek times as low as 12.2 ms. It is the first removable cartridge drive that delivers performance comparable (or superior) to many standard hard disk drives!

*Only with the purchase of one SQ 270 cartridge

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MacUser Editor's Choice Award

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APS SYQUEST DRIVES

Model	Capacity/Feature	Awards	Internal	SR2000
APS SQ 3270 Our best performing removable cartridge drive	255MB	MacUser LABS ★★★★½	N/A	$299.95*
EZ135 An affordable alternative to a new hard drive...from SyQuest	135MB		N/A	229.95
APS SQ 5200 Ultimate storage flexibility	194MB	MacUser EDITORS' CHOICE; MacUser LABS ★★★★½; NEW LOWER PRICE	N/A	359.95

While supplies last! CALL NOW!

APS CD-ROM DRIVES

Model	Features	Awards	Internal	SR2000
APS PD4CD-ROM/Removable Optical 600MB optical storage with 4X CD-ROM in one device			N/A	$499.95*
APS T 3701 Sustained data transfer rates up to 1000KB per second!	6.7X-SPEED		$299.95	NEW LOWER PRICE 329.95
APS CD-R FREE TOAST CD-ROM Pro CD recording software ($500 value)	Recordable CD-ROM		N/A	999.95*

While supplies last! CALL NOW!

3M PD650 optical cartridge **Special $45.95 ea.**

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	Price	10% disc.	Mail-in rebate	Final price
90m DAT 3-pack w/free cleaning cartridge	$29.95	$26.96		$26.96
90m DAT 5-pack	$45.95	$41.36	–$15.00	$26.36

Offer expires 4/04/96.

APS QIC & DAT TAPE BACKUP DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™ QIC 3080 Mechanism	2GB	MacWEEK ◆◆◆◆; MacUser LABS ★★★½	N/A	$499.95
APS DAT DDS-2 Non-Compression Mech.	2GB	Back Again by popular demand!	$649.95	699.95
APS HyperDAT DDS-2 Compression Mechanism	8GB		849.95	899.95
APS HyperDAT Pro DDS-2 High-Speed Mechanism	8GB	POWER MATCHED FOR POWER PC	1049.95	1099.95
APS DATLoader600 Ideal for large unattended network backups	48GB		N/A	2499.95

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230MB MO Olympus mechanism	4500 rpm drive	MacUser LABS ★★★★	$449.95
APS 1.3GB MO Sony SMO F-531 mechanism	4MB cache		1699.95
OPTICAL JUKEBOX, SINGLE DRIVE Sony mechanism	Up to 26GB of ultra-reliable MO storage/includes software		5999.95

- 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty. The warranty length is denoted by the superscripted number next to each drive model. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
- All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software, and APS Technologies' APS PowerTools SCSI formatter/hard disk partitioner. You may need to install system software appropriate to your machine before use.
- Prices and specifications are subject to change without notice. Not responsible for typographical errors.
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APS DLT TAPE BACKUP DRIVES

Model	Capacity/Features	Awards	SR2000
APS DLT30 Digital Linear Tape Mechanism	30GB	MacUser EDITORS' CHOICE AWARD 1995 FINALIST	$3999.95
APS DLT40 Digital Linear Tape Mechanism	40GB		5499.95
APS DLT4500 Loader Digital Linear Tape Mechanism	200GB		9999.95
APS DLT4700 Loader Digital Linear Tape Mechanism	280GB		11499.95

All APS tape drives include Retrospect® by Dantz®

Fuji 90m DAT tape 3-pack w/free cleaning cartridge **Special $26.96** with DAT drive purchase

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- ✔ Dual-linear recording for maximum throughput **IN STOCK!**
- ✔ Stores very large graphic files or databases on a single tape

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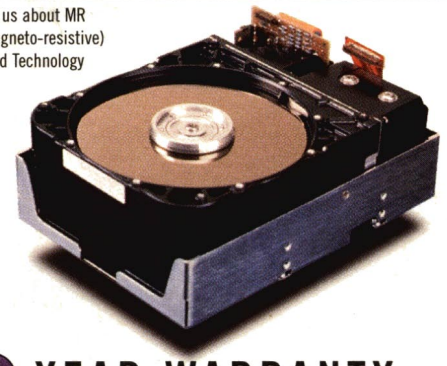

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- In-house engineers
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- $5 million in inventory
- 9 Years in business

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY		ACCESS	RPM	INTERNAL	EXTERNAL
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Hitachi 2.5" IDE***	810MB		14MS	5400	$ 339	
Hitachi 2.5" IDE***	1.0GIG		14MS	5400	$ 425	
Conner CFP1080s	1.2GIG	LP	11MS	5400	$ 295	$ 365
Seagate ST51080N ***	1.2GIG	LP	12.5MS	5400	$ 290	$ 360
Seagate ST31231N***	1.2GIG	LP	9MS	5400	$ 395	$ 465
Seagate Hawk	2.4GIG	LP	9MS	5400	$ 655	$ 725
Conner CFP2105S	2.1GIG	LP	9MS	5400	$ 585	$ 655
Conner CFP2107S	2.1GIG	LP	8MS	7200	$ 759	$ 829
Quantum Capella	2.2GIG	MR	8.6MS	5400	$ 699	$ 799
Quantum Atlas	2.1GIG	LP	8MS	7200	$ 795	$ 865
Seagate Barracuda 2	2.5GIG	LP	8MS	7200	$ 815	$ 885
Seagate Barracuda 2W	2.5GIG	LP	8MS	7200	$ 939	$ 999
Conner CFP2107W	2.5GIG	LP	8MS	7200	$ 795	$ 895
Fujitsu M2934S	4.2GIG	MR	8MS	7200	$ 1125	$ 1195
Fujitsu M2934W	4.2GIG	MR	8MS	7200	$ 1175	$ 1275
Seagate Barracuda 4	4.1GIG		8MS	7200	$ 1295	$ 1365
Seagate Barracuda 4W	4.1GIG		8MS	7200	$ 1365	$ 1435
Seagate ST15230N	4.3GIG		9MS	5400	$ 999	$ 1099
Conner CFP4207S	4.2GIG		9MS	7200	$ 1045	$ 1115
Conner CFP4207wide	4.2GIG		9MS	7200	$ 1099	$ 1199
Quantum Atlas	4.3GIG		8.6MS	7200	$ 1099	$ 1169
Seagate Elite 9	9.0GIG		11MS	5400	$ 2095	$ 2195
Seagate Elite 9W	9.0GIG		11MS	5400	$ 2295	$ 2395

CD RECORDERS/PLAYERS

Ricoh 2 speed recorder / 2 speed player

$949

4 speed Recorder
4 speed Player
4 GIG Hard drive
10 Blank CD's
1 Toast Software
$2995

Includes Free software and 10 CD's

Yamaha 4 speed Recorder / 4 Player	External	$ 1749
Yamaha 2 speed Recorder / 4 speed Player	External	$ 1145
Yamaha 2x4 Recorder with built in hard drive	External	$ 1529
Pioneer 4 speed 6-Disc CD-ROM Changer	External	$ 325
Toshiba 3701 6 speed CD Player	External	$ 445
Pioneer 4 speed CD Player	External	$ 265
Panasonic PD 4 speed/650mb Optical	External	$ 635

Many CD Tower Configurations available. Upto 500 Disks!

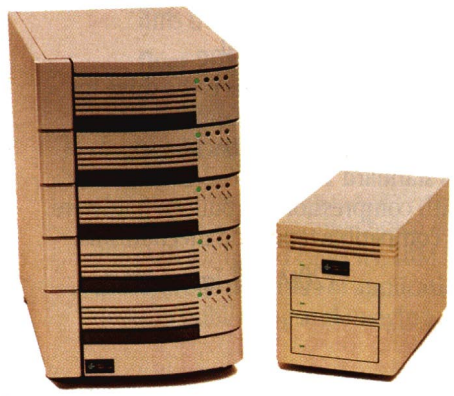
MEDIA

128MB Optical	$ 15	10 Blank CD's	$ 69
230MB Optical	$ 25	90M 4MM Tape	$ 8
1.3GIG Optical	$ 69	160M 8MM Tape	$ 18

"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." MacWorld April '95

RAID SYSTEMS

FAST DESKTOP OR SERVER



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  Tested with MacBench on PowerMac 9500.
  12GIG with 2 PCI accelerator cards **$ 7799**

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Atto Silicon Express IV	$ 835
Atto Express PCI MC	$ 765
Atto Express PCI SC	$ 345
Adaptec AHA-2940W	$ 245
SCSI Expander	$1345

MEDIA 100 TARGA 2000 radius

OPTICAL DRIVES

2.6GIG Sony Optical for $1959 external including all cabling, and software!!

CAPACITY	MODEL	EXTERNAL
230MB	Fujitsu	$ 499
1.3GB	NEC	$ 1295
1.3GB	Sony 4MB cache	$ 1695
2.6GB	Sony	$ 1959
26GB	Sony Jukebox	$ 4695

1 YEAR WARRANTY

TAPE BACK-UP

We are the tape-backup Experts

2 YEAR WARRANTY

With 2.5MB/sec sustained transfer, the DLT2000XT is perfect for digital video or pre-press with large data files.

All systems include one tape cartridge, cabling, and Retrospect software.

CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
-4GIG	Tandberg Panther	1/4"	$ 469	$ 539
-8GIG	Sony 5000 DDS-2*	4MM	$ 939	$ 999
-14GIG	Exabyte 8505XL	8MM	$ 2065	$ 2125
-10GIG	Exabyte 8505S	8MM	$ 1475	$ 1575
-30GIG	DLT2000XT	1/2"		$ 3599
-40GIG	DLT4000	1/2"		$ 5499
-140GIG	Exabyte-10h Library	8MM		$ 4999
-200GIG	Spectra Logic 4000	4MM		$ 8599
-280GIG	Breece Hill Library	1/2"		$ 27999

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- Rated Superior to Trinitron
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- 1600x1200 to 1024x768
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- Best for color accuracy
- Compare at $2399
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RasterOps SuperScan MC 21	$CALL
Radius Multiview 21	$CALL
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Radius IntelliColor Display 20 from $1499* Retail $2399
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- 1600x1200 to 640x400

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Radius 20 inch Grayscale Display	$699

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PrecisionColor Display 17	from $899
PrecisionView 17	$CALL
Radius PressView 17sr NEW ★★★★★	$CALL
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Radius Color Pivot LE $399*
We have cards for SE/30, LC, IIsi, Nubus, and Quadras
* With purchase of video card.

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Grayscale Pivot	$399
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Apple Portrait Display	$399
Portrait Display Labs 1700	$CALL
E-machines ColorPage 15 with NUBUS card	$499

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SuperMac Display Calibrator	$299
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*DSP Available

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SuperMac Futura MX	$499
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Radius PrecisionColor Pro 24XP	$CALL
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"If you frequently need to retouch large image files in Adobe Photoshop using such filters as Gausian Blur, Shapen, and Emboss, then you need either to have the patience of Mother Teresa or a digital signal processor (DSP) board." –Macworld

Radius PhotoEngine from $399
- Four AT&T 3210 66MHz DSPs
- Accelerates Photoshop filters
- Up to 15x acceleration in all Macs
- MacUser Editor's Choice
- Available in Daughtercard or NUBUS versions

Standard video cards do not provide acceleration for many critical Photoshop functions, because they do not have on-board Digital Signal Processors (DSPs). When installed in your system, DSPs are used by Photoshop to process time consuming commands more than 10-times faster than built-in video.

Greatest Improvement Areas:
- Filters such as those in the Sharpen and Blur submenus
- Mode conversions such as RGB to CMYK color separations
- Image transformations such as rotations, effects, and resizes.

Radius PhotoBooster (NUBUS or RocketPDS)	$199
SuperMac ThunderStorm DSP Boards	$299
Radius Color Engine for Thunder 30 Cards	$CALL
Radius PhotoEngine Nubus	$CALL
Adobe Photoshop 2.5 Deluxe CD Edition	$CALL
RasterOps Paintboard DSP Upgrades	$CALL
Radius GX (CMYK acceleration) Upgrades from	$349

Stop wasting valuable time: Imagine using filters that normally take twenty minutes to process finishing in only two to four minutes! How much additional time would you save in just one week? You can't afford to be without DSPs.

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- Only Color Laser Choice for envelopes

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Xerox 4900 series Color Laser from	$5589

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Fargo Pictura 310 Color Printer	$CALL
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• Dual-function dye sub and wax thermal	
• Editors Choice	
QMS ColorScript 210/230	$CALL
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* With purchase of any other item in ad

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QMS PS 825/825mr 8ppm, 600dpi	$799/$1099
QMS 1060 10ppm, 600dpi	$CALL
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QMS PS 1700 17ppm, duplex optional	$1999
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SelMecha SP-2400AP dot matrix	$179
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RasterOps 24HXTV	$CALL
RasterOps MoviePak II (RS/6 Graphics and Upgrade)	$CALL
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Don't bother building a library of Syy 44, 230 or 230 MB optical cartridges. After buying only 10 1.0GB cartridges your savings will pay for this drive.

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- 1MB Cache, 30 msec Max. (25 MB Optical Drive)
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Apple 400mb HD Internal/External	$175/$250
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FWB Jackhammer SCSI accelerator (PDS)	$299
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Daystar SCSI PowerBoard accelerator	$299

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DCA Mac Irma 3270	$499
DCA Irma 3270 for Mac SE	$499
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E-machines Colorlink EX/T 24-bit to 640x480, 10BT ethernet	$299
E-machines Futura II SX/T 24-bit to 832x624, 10BT ethernet	$399
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CARDS & MONITORS

Apple 8•24 GC	$449
RasterOps 104 24bit card for Two Page Displays	$299
RasterOps 24XLi (3MB, expandable to 16MB)	$599
RasterOps 24L with 301	$699
RasterOps 703+ 8bit for 20" monitors	$299
Daystar NUBUS RAM Expansion Card	$199
E-machines T19 Card for SE30/IIsi	$299
E-machines ColorPage 15" monitor & video card	$499
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Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac Plus	Mono	–	–	–
Radius Pivot Card	SE/30	256	–	–	–
Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
SuperMac Spectrum 8.24	IIsi	Millions	256	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac SE	Mono	–	–	–
SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
RasterOps 8/LC	LC/PDS	–	–	256	–
SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
Micro Conversions 1724	LC/PDS	Millions	Millions	256	256
Lapis Color 24 for LC	LC/PDS	Millions	Millions	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Double Color SX	Nubus	256	256	16	–
RasterOps 708+	Nubus	256	–	256	–
RasterOps 24L	Nubus	Millions	–	–	–
RasterOps 8/LC	Nubus	–	–	256	–
SuperMac Spectrum 8	Nubus	256	256	256	–
Double Color LX	Nubus	256	256	256	256
Radius Direct Color 24	Nubus	–	–	–	Millions
E-machines Futura MX	Nubus	Millions	Millions	Millions	–

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Quantum

TRAILBLAZER 850MB

FIREBALL 1280MB

14ms Access Time
Internal TrailBlazer C109 1206

12ms Access Time
Internal Fireball C109 2232

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$199

$999

Quantum ATLAS 4.3GB

7200 RPM
1024K CACHE

Internal Atlas C109 1122

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ClubMac 200MB Removable

200MB

C104 1801

*Cartridge sold separately.

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EZ135 Drive

S198 2001

135MB

Features:
135MB Capacity
SCSI Interface
13.5ms access
TWO Year Warranty

$179

ClubMac 4X

C104 1500

Features:
600KB/sec data transfer
190ms avg access time
Caddy-less design

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N024 1070

NEC MultiSpin 4Xc 7 Disc Changer

Load 7 Discs at a time!

Source Code 65106

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1080MB Fireball		C109 1202/C109 1203	$259/$319
1280MB Fireball		C109 2232/C104 0051	$299/$359
2200MB Capella		C109 1213/C109 1212	$629/$689
2150MB Atlas		C109 1112/C109 1111	$739/$799
4300MB Atlas	BEST BUY	C109 1122/C109 1121	$999/$1059

Seagate

1.0GB Medalist 51080N		C109 2274/C109 2235	$269/$329
4.3GB Hawk 4 15230N		C109 2212/C109 2113	$999/$1059
2.5GB Barracuda 2 LP 32550N		C109 2203/C109 2109	$769/$829
4.3GB Barracuda 4 15150N		C109 2207/C109 2106	$1199/$1259
5.25" Full Height			
9.1GB Elite-9 410800N		C109 2231/C109 2110	$2199/$2299

CLUBMAC 2.5" DRIVES

Quantum

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810MB Europa IDE*	C109 1022	$329 Internal
1080MB Europa IDE*	C109 1023	$419 Internal

*Compatible with PowerBook 150 and 5300 series only.

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Seagate

	Internal/External	Internal/External
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4.3GB Barracuda 4 ST15150W	C109 2206/C109 2208	$1319/$1419
9.1GB Elite 9 ST410800W	C109 2220/C109 2222	$2379/$2499

Quantum

2.2GB Capella VP32210SW	C109 2219/C109 2217	$699/$799
4.3GB Grand Prix XP34301SW	C109 2216/C109 2218	$1029/$1129

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NEC

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ClubMac

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S198 2001	SyQuest EZ135 135MB 3.5" Removable	$219

*Cartridge not included

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BEST BUY

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S198 1011	88MB	$44ea	$43.50ea	$43ea
S198 1012	200MB	$69ea	$68ea	$67ea
S198 1013	105MB	$35ea	$34.50ea	$34ea
S198 1014	270MB	$57ea	$56ea	$55ea
S198 2010	EZ135MB	$23ea	$22.50ea	$22ea

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Q034 1022	1/2 inch media for DLT 4000	$99

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- External drives include a Double Shielded, twisted pair 25-50 SCSI cable.
- ClubMac honors all original equipment manufacturers warranties. ClubMac will repair or replace drives at it's discretion. Drives returned within first 30 days of purchase are replaced with a new unit.
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S106 1018	Sony Multiscan Trinitron 17SF-2	$915
S106 1019	Sony Multiscan Trinitron 17SE-2T	$1095
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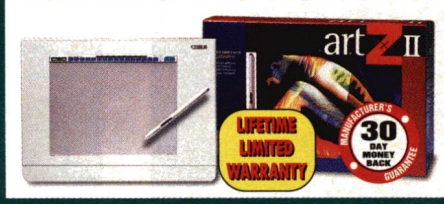

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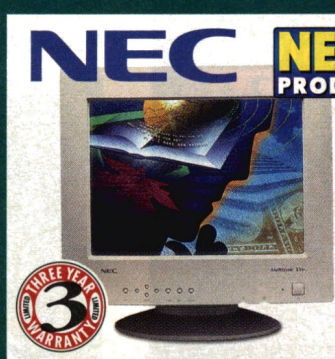

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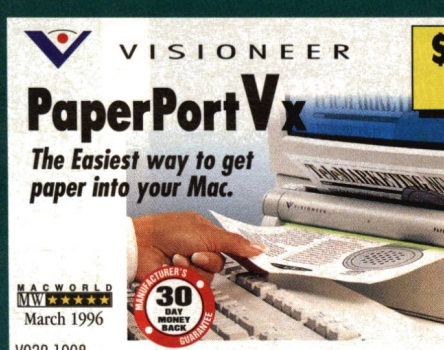

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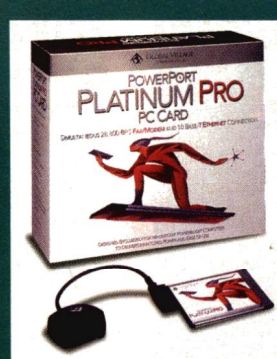

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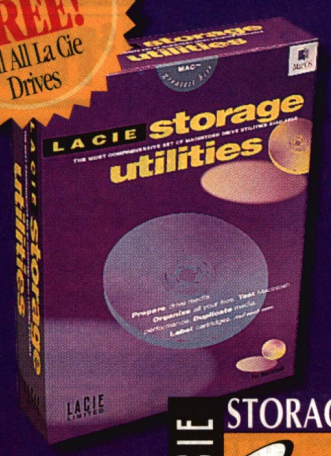

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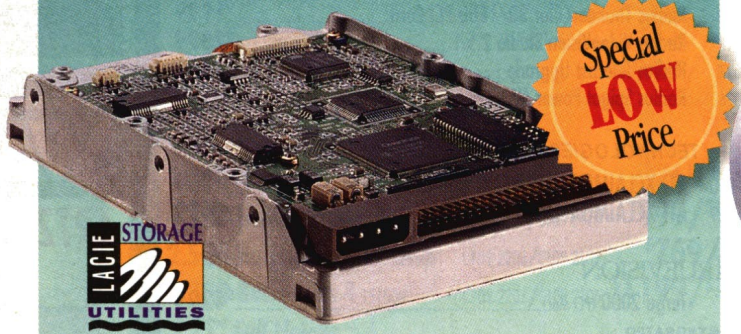

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1280MB Quantum Fireball	5400 rpm	3 yr. warr.	$299
2160MB Ultrastar ES IBM	5400 rpm	3 yr. warr.	$599
2210MB Quantum Capella	5400 rpm	5 yr. warr.	$619
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- Complete with switchable active termination, cables and La Cie Storage Utilties.
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1080MB Quantum Fireball	5400 rpm	3 yr. warr.	$319
1280MB Quantum Fireball	5400 rpm	3 yr. warr.	$369
2160MB Ultrastar ES IBM	5400 rpm	3 yr. warr.	$669
2210MB Quantum Capella	5400 rpm	5 yr. warr.	$679
4.3GB Quantum Atlas	7200 rpm	5 yr. warr.	$1199

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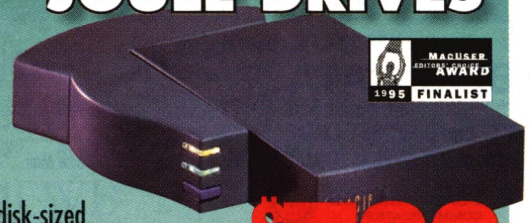

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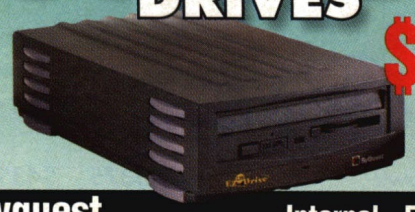
SYQUEST DRIVES



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230MB External	1 year warranty	$469
230MB Optical Cartridge		$19.95
2.6GB External	1 year warranty	$1999
2.6GB Optical Cartridge		CALL

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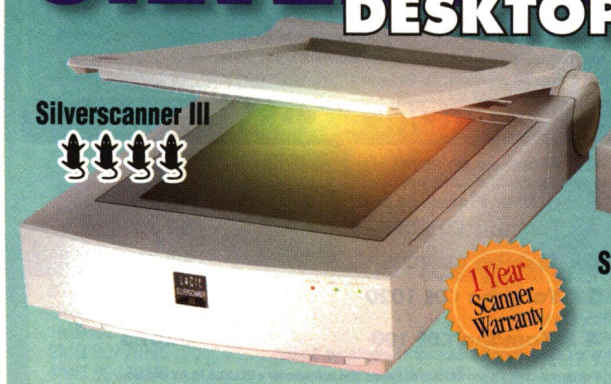
SILVERSCANNER DESKTOP SCANNERS



Silverscanner III

Silverscanner DTP

MacUser BEST BUY

1 Year Scanner Warranty

Silverscanner DTP Complete

Desktop color, 400x800dpi interpolated to 3200 dpi.

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- Silverscan

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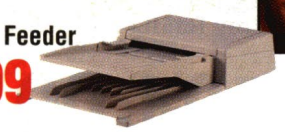
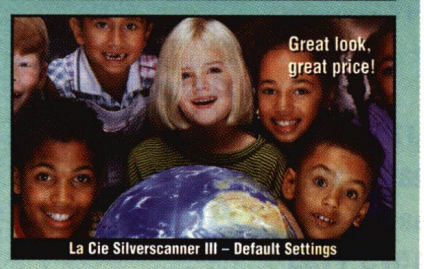
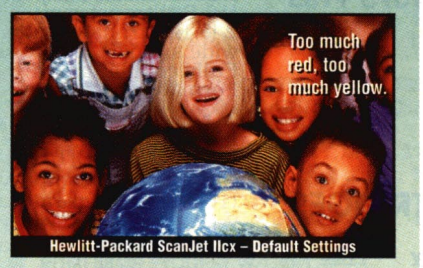


Sheet Feeder **$499**

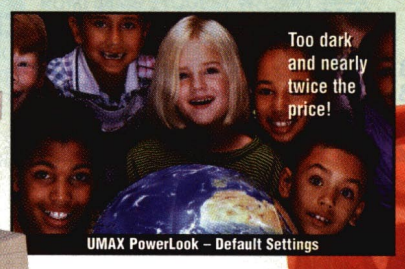
$140,000 Drum Scanner – Default Settings



La Cie Silverscanner III – Default Settings



Hewlitt-Packard ScanJet IIcx – Default Settings



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	535 MB	***Performance !***		175	235
	9 ms Seek	5400 RPM	512K Buffer	5 Year Warranty	
	540 MB	**Fireball**		180	240
	11 ms Seek	5400 RPM	128K Buffer	3 Year Warranty	
	730 MB	***Value!***		185	255
	11 ms Seek	5400 RPM	128K Buffer	2 Year Warranty	
	850 MB	***Value!***		195	255
	11 ms Seek	5400 RPM	128K Buffer	3 Year Warranty	
	1080 MB Fireball			255	315
	11 ms Seek	5400 RPM	128K Buffer	3 Year Warranty	
	2.2 GB	***Saturn***		635	695
	8.5ms Seek	5400 RPM	1024K Buffer	5 Year Warranty	
	2.0 GB	**Atlas**		785	845
	8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
	4200 MB	**Grand Prix**		985	1045
	8.6 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
√	**4.3 GB**	**Atlas**		1075	1135
	8ms Seek	7200 RPM	2048K Buffer	5 Year Warranty	

Fast & Wide SCSI AV Drives

	2.0 GB Atlas			885	985
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IBM 31080, 5400RPM, 9 ms seek, 5 year warranty			

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	2.5 GB Barracuda 2			765	825
	8 ms Seek	7200 RPM	1024K Buffer	5Year Warranty	
	4.3 GB Barracuda 4			1185	1245
	8 ms Seek	720000 RPM	1024K Buffer	5 Year Warranty	
	2.5 GB	**Fast & Wide Barracuda 2**		825	925
	8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
	4.3 GB	**Fast & Wide Barracuda 4**		1245	1345
	8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
	9.0 GB Elite			1995	2095
	11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	
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	11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	

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√	**1.2 GB** ***DeskStar***			239	299
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	2.2 GB ***UltraStar XP***	***Performance!***		755	815
	7.5 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
	4.3 GB ***UltraStar XP***	***Performance!***		1165	1225
	8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
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MacIntosh formatted capacities vary.. Call our hard drive experts!

FUJITSU

	530 MB			$175	$235
	9 ms Seek	4500 RPM	256K Buffer	3 Year Warranty	
	1.2 GB			285	345
	9 ms Seek	5400 RPM	512K Buffer	3 Year Warranty	
	2.1 GB			685	745
	8.5ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
	4.2 GB			1075	1135
	8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	

SyQuest TECHNOLOGY

DRIVES			CARTRIDGES	
Capacity	**Model**	**External**	**Capacity**	**Price**
88 MB	SQ5110C	$345	**44 MB**	**$40**
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Fast SCSI 2 8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
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Fast SCSI 2 8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
9.0 GB • ***Also Available in Fast & Wide SCSI 2***			1935	2035
Fast SCSI 2 11 ms Seek	5400 RPM	512K Buffer	5 Year Warranty	

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Fast SCSI 2 8.5 ms Seek	7200 RPM	512K Buffer	5 Year Warranty	
9.0 GB • ***Also Available in Fast & Wide SCSI 2***			2035	2135
Fast SCSI 2 11ms Seek	5400 RPM	512K Buffer	5 Year Warranty	

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24-60 GB	1553A		3195	3295
	Auto Tape Loader			

CONNER

Capacity	Model	Media	Int.	Ext.
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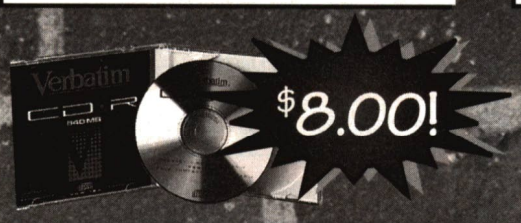

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RADIUS THUNDER 24 GT	490
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PRESTO 040 80/40MHZ MAC IICI	290
PRESTO 040 80/40MHZ W/CACHE MAC IICI	387
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PRESTO 040 80/40MHZ W/CACHE, FPU MAC IICI	485

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MEMORY

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1MB 70NS	$42
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4MB PAL SIMMS FOR II,IIX	
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16MB 70/60NS	365/367
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8MB 70NS	337
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32MB70NS	1199
PB500 SERIES	
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8MB RAM	267
16MB RAM	543
32MB RAM	1089
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PB DUO-14MB	543
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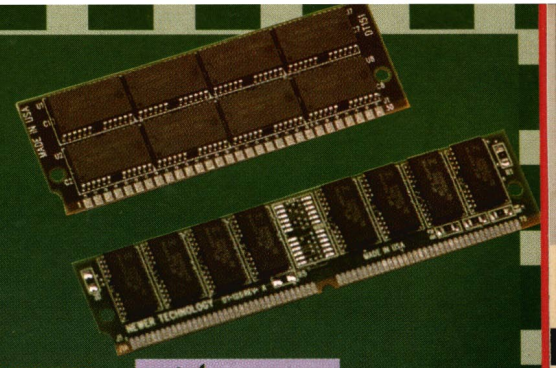

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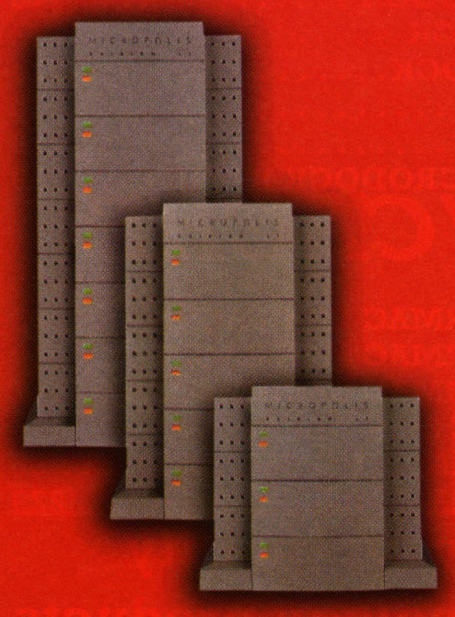

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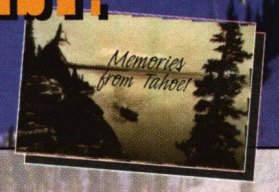

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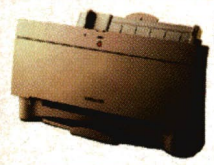

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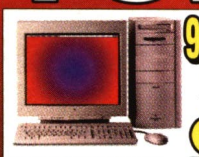

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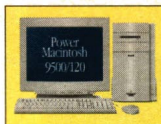

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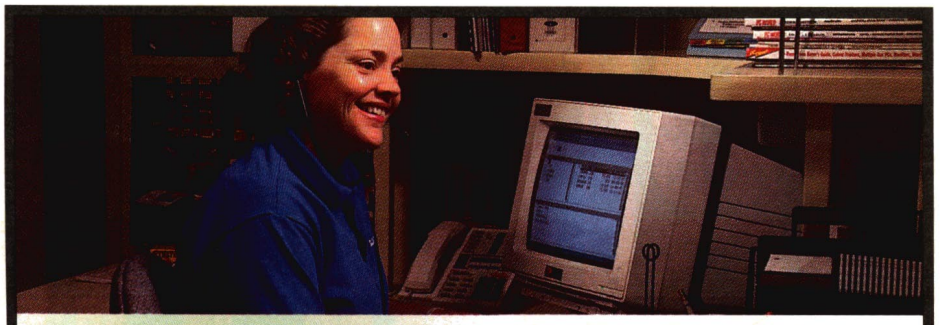

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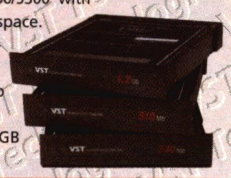

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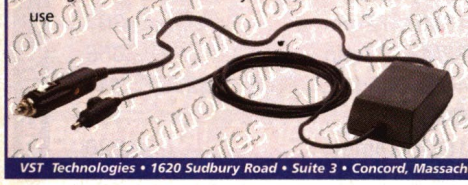

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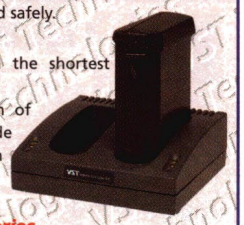

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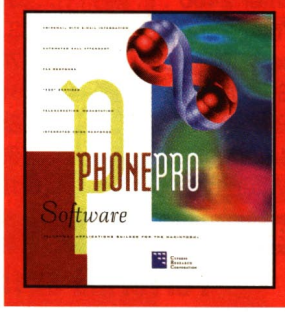

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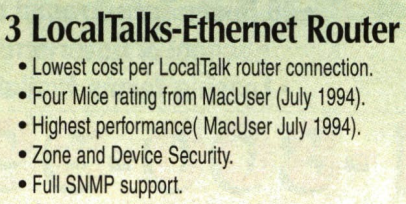

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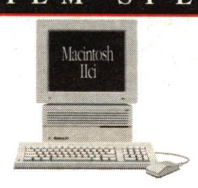

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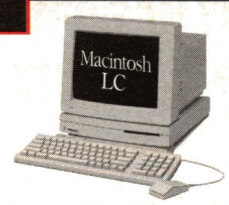

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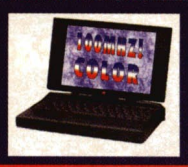

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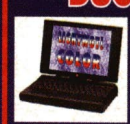
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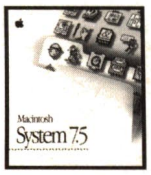

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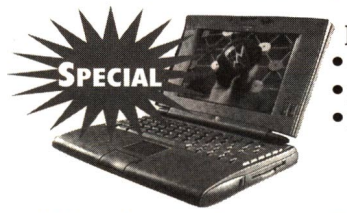

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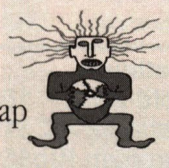

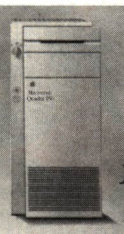

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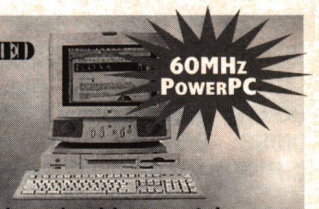

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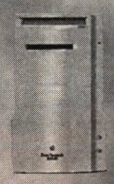

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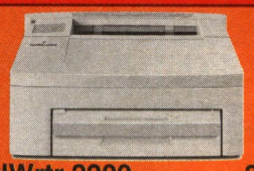

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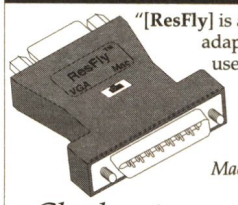

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Director

From Page 1

tion on projects; Macromedia said it will also let producers create templates for animations and then easily update them with new information by switching cast files.

Instead of the previous XObjects, Director 5.0 will use Macromedia's new cross-platform standard for third-party extensions. An Xtras Developer's Kit will ship free with Director 5.0. The company said more than 20 third-party Xtras should ship within 90 days after Director 5.0.

"Writing XObjects was very difficult; you had only a small crevice in Director which you could use to poke new capabilities into the product," said Terry Schussler, CEO of Xtras developer gray matter design inc. of San Francisco. "Now you can not only easily build functionality but you can insert it seamlessly where it belongs in the user interface."

Performance enhancements include faster execution of Lingo scripts and preloading of movies in the background.

Almost 100 new Lingo commands will include routines for scriptable authoring and network commands.

A new Debugger window will help users troubleshoot Lingo scripts. "The debugger brings Director up to the level of a real programming environment with symbolic addresses, break points, variables watching and a full suite of debugging tools," Meetinghouse's Steele said.

Other enhancements include new grids and alignment tools that rely on Macromedia FreeHand technology, an onionskinning feature in the Paint window, use of Adobe Photoshop filters in the Cast and Paint windows, and better integration with SoundEdit 16.

Macromedia this month will deliver a Director 5-compatible version of Shockwave, its free technology for converting and playing back Director movies on the Web, the company said.

Director 5.0 will still list for $1,199. Upgrades will be $399.

Macromedia Inc. of San Francisco is at (415) 252-2000 or (800) 326-2128; fax (415) 626-0554; http://macromedia.com. □

Adobe

From Page 1

sibilities of Adobe's and Frame's disparate sales staffs, Adobe executives said.

Nonetheless, its technology-laden lineup is paying dividends — especially in annual sales.

Technology

Adobe has a veritable all-star lineup of products: PostScript, Photoshop, Illustrator, PageMaker, Premiere and After Effects. About the only graphics application missing is a tool for multimedia authoring. "It's good software and bug-free," said Jeffrey Tarter, editor of Soft•letter in Watertown, Mass. "What other major software company can make that claim?"

Meanwhile, Adobe is courting the Internet. The company began to pursue the on-line world in 1993, when it released Acrobat 1.0. It followed that with its acquisition of Ceneca, developer of PageMill and SiteMill, last September.

"Users can create content with the Internet; they don't have to contend with hardware designs and OSes," Adobe President Charles Geschke said. "It lets them be more active."

Despite its drive for the information superhighway, Adobe was dinged by analysts who contend it came late. "Adobe is in this transition from a world in which [it] was able to set standards to a world in which Adobe is a player [and] there are other players," said Jonathan Seybold, founder of Seybold Seminars in Malibu, Calif.

Marketing

The company wants to expand its empire to consumers with its new Adobe For You division. That group's first product, PhotoDeluxe, is based on Photoshop's engine but has a lower price tag and simpler interface.

Company officials said the product line will target categories where Adobe is strong, such as desktop publishing, video, graphics and imaging.

Customer service

Although users were enthusiastic about Adobe's products, they were lukewarm about customer service. "Adobe's current tech support is pretty good if: a) you know the right number; and b) you have not used up your one-time call-in credit," said Mike Reedy of St. Louis, Mo., who also bemoaned Adobe's lack of live e-mail support.

To address such criticisms, Adobe this month will launch the CustomerFirst Service and Support Program, which will encompass all its products and will provide e-mail support later this year.

Finance

While Adobe's high-tech buying spree has landed it cutting-edge technology, it has also cut into profits. Restructuring charges of $46.5 million for the acquisitions of Ceneca and Frame put a dent in fourth-quarter profits, spoiling otherwise good fiscal 1995 results.

For the year, Adobe's sales were $762.3 million, up 13 percent from $675.6 million in 1994; meanwhile, profits skyrocketed 511 percent, to $93.5 from $15.3 million in 1994.

During the last three months of 1995, however, Adobe lost $11.8 million, causing a free fall in the company's stock — from the high $70s in early January to $33.50 on Feb. 29.

"It's a hiccup that is to be expected when you make two major acquisitions in a year," Adobe CEO John Warnock said. "Our stock will be back." □

Company Report Card

ADOBE SYSTEMS INC.

Adobe

A- **FINANCE:** Restructuring charges related to its acquisitions of Frame Technology Corp. and Ceneca Communications Inc. blemished record annual sales and profits.

A **TECHNOLOGY:** A sterling lineup, anchored by PostScript, Illustrator and Photoshop, makes Adobe the premier Mac developer.

B+ **MARKETING:** After gobbling up its competitors and assorted start-ups, Adobe has the corner on publishing and is eyeing the burgeoning consumer market.

B **CUSTOMER SERVICE:** High prices and disjointed technical support will be addressed with new CustomerFirst program.

PROSPECTS: If it doesn't spread its resources too thin, Adobe is well-positioned to be as successful on the Internet and in consumer markets as it has been in the publishing world.

Specular

From Page 1

$199 texture generator; and WebHands, a new collection of Web clip art. The package will also include Adobe Systems Inc.'s $99 PageMill HTML editor, a GIF conversion utility and a Netscape Navigator plug-in for playing back streaming QuickTime files.

The applications will support Mac Drag and Drop, letting users pass images among LogoMotion, TextureScape and PageMill.

WebHand's more than 300 clip-art files will include 3-D banners, borders, buttons, logos, arrows and textures, as well as clip animations. Specular said all will be optimized to their smallest size for faster delivery over the Web. A small spinning 3-D bullet, for example, will occupy only 4 Kbytes.

The Web versions of TextureScape and LogoMotion will add several new functions and interface changes for Web use. They will provide non-dithering background colors, such as Netscape gray, used to make an image transparent; predefined camera angles optimized for viewing 3-D objects; and tools for stripping files to their smallest size. Specular said the applications will also crop the number of frames in an animation file to match Macromedia Director requirements, allowing Fireball files to be used in Shockwave projects.

"It is very easy to create beautiful objects [with Fireball], and when you are finished, you simply drag the object into PageMill [which] turns it into a GIF file," said Javier Roca, a computer artist from Madrid, Spain. He said one of Fireball's strengths is that it does not demand as much RAM or processor power as most 3-D applications. "Plus everything can be done at low resolution because you are creating for the screen," he said.

Neither TextureScape nor LogoMotion will output Virtual Reality Modeling Language or 3DMF (3-D metafile format) files. Specular said it expects to offer these features in a later release.

Specular International Ltd. of Amherst, Mass., can be reached at (413) 253-3100 or (800) 433-7732; fax (413) 253-0540; http://www.specular.com. □

Web perspective: Fireball will provide tools for creating animated 3-D elements for Web pages.

FoxPro

From Page 1

the Visual FoxPro development environment. Users will still be able to create runtime versions for 680x0 machines, he added.

In addition to becoming a visual development environment, the Mac version will include object-oriented capabilities and have a browser for viewing and managing classes. Visual FoxPro for the Mac will support OLE automation but not OLE controls.

The Mac version will come with tools for migrating data from Visual FoxPro to Microsoft SQL Server and will include Open Database Connectivity 2.0 drivers for Microsoft SQL Server. The connection to SQL Server will give the file-sharing-based Visual FoxPro client-server capabilities.

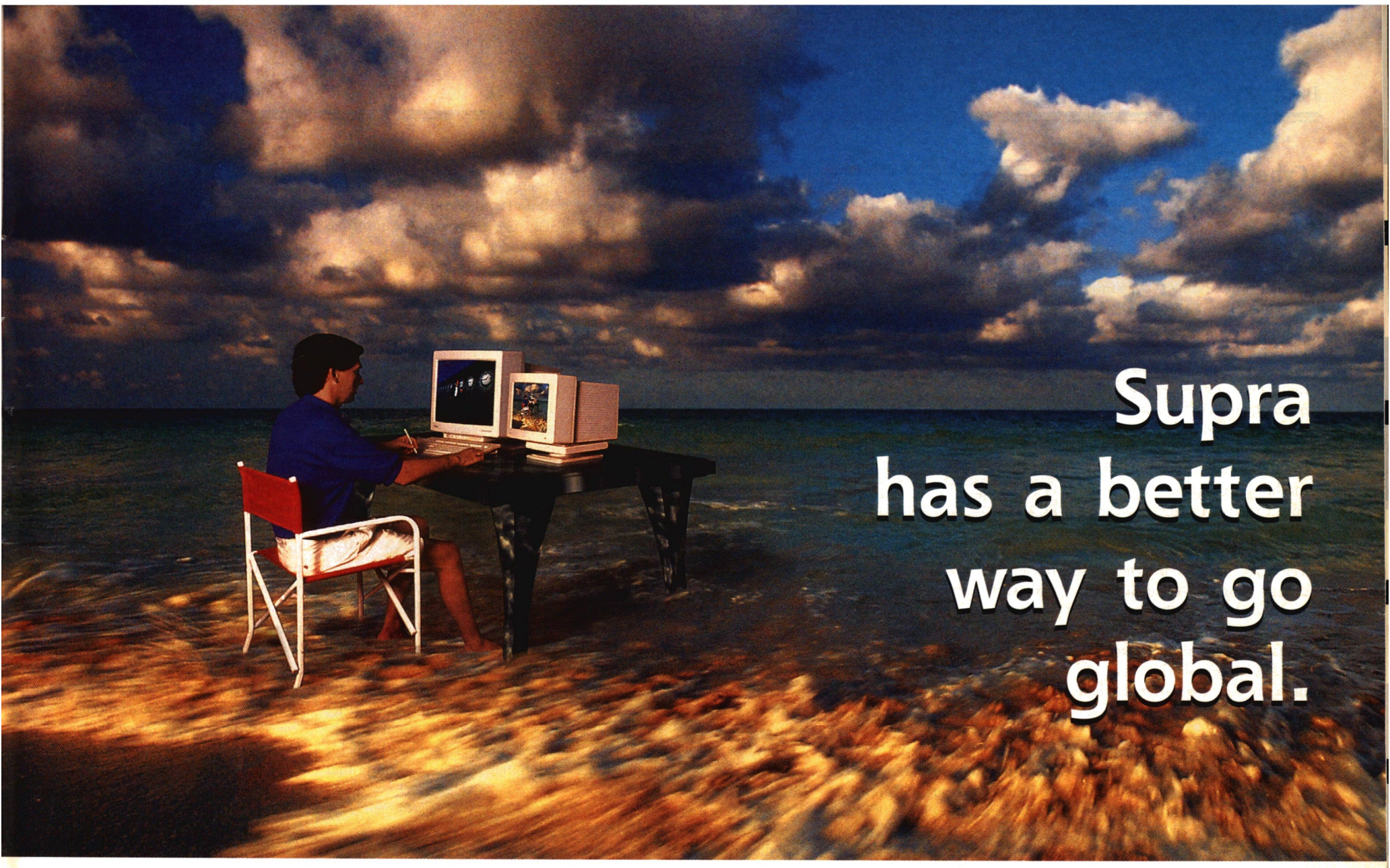
Wenger said the upgrade will add several Mac-only features. It will expand AppleScript functionality, so users will be able to return values in AppleScript. Microsoft said it intends to add some QuickDraw GX features as well as Apple Guide support. A new OLE 2.0 server for QuickTime will let users add movies to a Visual FoxPro form. The environment will also come with a handful of CGIs (Common Gateway Interfaces).

Several developers familiar with Microsoft's plans were happy with the company's direction. "It definitely has a Visual Basic feel to it, and I like that," one said.

Another developer said: "The object-oriented features are significant. They will allow you to create large projects more easily and then have them grow."

Others were concerned about Microsoft's commitment to the application. "It's the most unstable beta I've ever tested," a developer said. "I've lost track of how many times I crash hard in a week."

Microsoft Corp. of Redmond, Wash., is at (206) 882-8080 or (800) 426-9400; fax (206) 936-7329; http://www.microsoft.com. □



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115,200 bps max throughput	■	■	■
Up to 14,400 bps fax capability	■	■	■
Voice/fax line sharing	■		■
Data comm software	Microphone LT	Microphone LT	Shareware
Serial port enhancer software	■	■	■
CompuServe® Information Manager	■	■	■
Caller ID	■		
5-Year limited warranty	■	■	■
Durable aluminum case	■		
Flash ROM	■		■
Alpha-numeric display	■		
Fax software	FAXcilitate	FAXcilitate Lite	GlobalFax
One-step access to FAX menu	■	■	
Apple Script support	■	■	
Estimated Retail Price	**$229**	**$169**	***$209**

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Cyberdog

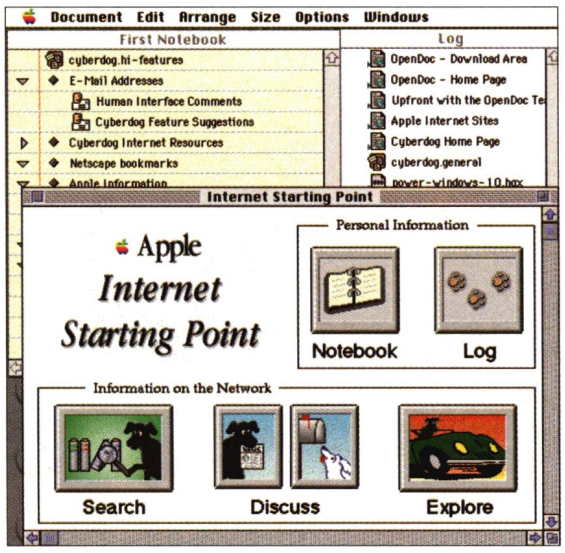
From Page 1

tual memory is off; with virtual memory on, launching Cyberdog costs only about 600 Kbytes of extra RAM, but on our system, launch time doubled — to more than one minute.

In exchange for those resources, you get a browser for Web, FTP and Gopher servers; a mail client; a newsreader; a Telnet tool; and a notebook for storing and organizing electronic addresses, as well as a log of all locations you've visited. These modules are capable, easy to use and attractive, but they have gaps and rough edges.

The browser, for example, has a clean, uncluttered interface; excellent drag-and-drop support; and built-in players for audio and QuickTime movies. But it's not as fast as Netscape Navigator 2.0, and it supports neither Java applets nor the rich variety of data types Navigator can handle via plug-ins.

The mail and news clients let you set up multiple "In Trays" (equivalent to folders) and "handlers" (rules) for automatic filtering and filing. These modules break new ground with aggressive support of the MIME (Multipurpose Internet Mail Extensions) standard: Messages can include styled and colored text, graphics, audio, URLs (uniform resource locators), and virtually any other data type. Pity, most mail and newsreaders don't know what to do with such data — some convert them to junk characters and unopenable attachments — and, furthermore, some people may resent having bandwidth taken up for such purposes.



An OpenDoc document called Internet Starting Point is Cyberdog's main console. The Search and Explorer buttons open a browser; Discuss launches mail and newsreaders.

Problem areas

Cyberdog Beta 1 doesn't work at all with some servers, and we experienced various failures and crashes, including bouts of severe instability we traced to a corrupt extension called SOMobjects for OpenDoc. We trust that Apple will resolve such glitches before it lets Cyberdog off the leash.

Company sources said they also expect to make limited design changes before then. Some we'd like to see include implementing Command-period and Escape commands to cancel a process, teaching the pup to stop asking whether to save changes in documents that haven't been modified, and making it possible to edit pending mail. (As it stands, you can't even correct a typo in the address field once you've tried to send a message.) And we wish Apple would for once add a window-management menu.

One glaring user-interface problem may or may not be resolved before the software's formal release, according to Apple: Because the main Cyberdog console (called Internet Starting Point) was created with an OpenDoc graphics editor called ODFDraw, it displays that part's graphics-oriented menus instead of the expected Internet-related options. Neither Round Corners nor AutoGrid will help users navigate the information superhighway.

The OpenDoc framework

Some deeper user-interface issues won't be resolved in the near term because they are rooted in OpenDoc itself. There is, for example, no Quit command. OpenDoc's champions say such a command is not needed in the emerging world of document-centric computing, but here we didn't find productivity enhanced by having to close multiple windows to exit Cyberdog.

In the long run, of course, Cyberdog's OpenDoc foundation should significantly enhance the appeal of both technologies because the combination will make it possible to embed live links and even automatically updated Internet-based content into reports, presentations and other documents created in any OpenDoc container. But until capable container applications and other parts begin reaching users, that promise is purely abstract.

Even in its current state of immaturity, Cyberdog is an intriguing technology; as soon as it's polished up a bit, we hope to see it become a standard component of the Mac OS. In the long run, however, it remains to be seen whether Cyberdog will turn out to be a much-needed strategic advantage for the Mac or another case of Apple heading off on its own while the rest of the industry moves in other directions.

Cyberdog is available at http://cyberdog.apple.com/; Beta 2 may be available by the time you read this. Note that you won't be able to install any version unless you've previously installed OpenDoc 1.0, which is available at http://www.opendoc.apple.com//dload/index.html. □

A longer version of this story with more details about Cyberdog's interface, beta problems and market challenges is on MacWEEK Online at http://www.zdnet.com/macweek/mw_1008/rev_cyberdog.html.

Seybold

From Page 1

After the opening sessions wrapped up and the slow registration lines thinned, show goers gawked at the colorful booths and demonstrations. "We're amazed," said Edward Burke, graphic arts manager at Whelen Engineering Co. of Chester, Conn. "We're kids in a candy store. The change in technology is great."

Thomas Leavitt of Boston-based Arcadia Press, agreed: "It's visual overload, but it's great."

Some of the best-attended booths at the show were those offering Web publishing tools. Silicon Graphics Inc. encouraged designers with a new Web color-management tool, Cosmo Color, that utilizes Sonnetech Inc.'s Colorific calibration software in a Java applet.

Maxum Development Corp. raised the Web graphics performance bar with RushHour. Maxum said its software works with any standard Web server to transmit JPEG or GIF files at rates up to 15 Mbps and 40 connections per second.

Apple's own spanking-new AIX servers proved popular with the publishing audience. Peter B. Bartram, president of imagine.com, a Hartford, Conn., publishing and Internet-services company, predicted Apple's Network Server will be "the Intranet server of choice.

"It's half the cost of the Sun 20/71 and it's twice the performance," he said. "It's great for corporate America because the OS is from IBM; creative professionals will love it because it's Apple; and geeks will love it because it's really fast."

Seybold also heard the first shots fired in a new cyberfont war, with the triumvirate of Adobe Systems Inc., Apple and Netscape Communications Corp. going up against a Microsoft Corp.-led consortium and Bitstream Inc.'s TrueDoc (see story, Page 4).

Orange and green joined the CMYK club at the show when six-color HiFi Color output edged into the limelight. Pantone Inc. unveiled HexWrench, a plug-in for Adobe Photoshop that generates six-color separations (see story, Page 10). The only output on hand came from ink-kit manufacturer Colossal Graphics Inc.'s C6 Hi-Fi Digital Color System, which uses special cartridges and a custom driver to simulate six-color output on standard four-color inkjet printers.

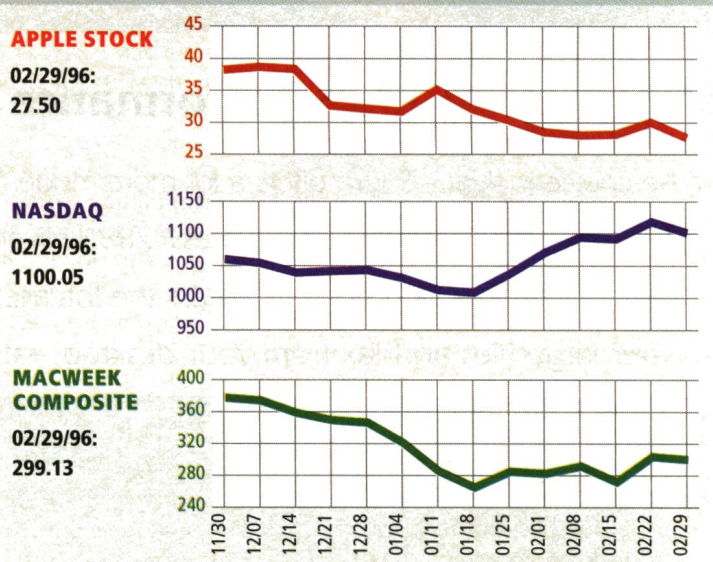
Also on paper, 3M Corp.'s former Printing and Publishing Systems Division, officially spun-off last week, showed off three new dye-sublimation tabloid proofers, including a model that can print to materials such as transparencies and metallic media.

Vendors and attendees alike were struck by the movement of pre-press and publishing heavyweights toward low-end products. "The guys on the high end are moving down, and the companies on the bottom are moving up. It's great for the industry," said one digital camera vendor.

The mercurial temperatures might be more forgiving next year when the show moves to New York City. Attendees had mixed reactions to the move, but most were optimistic. □

Andrew Gore and David Morgenstern contributed to this report.

StockWatch



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Apple	27.50	-2.38
MacWEEK Composite*	299.13	-3.52
SOFTWARE DEVELOPERS		
Adobe	33.50	-3.38
Caere	8.25	-0.50
CE Software	2.75	-0.44
Fractal	5.13	-0.25
Graphsoft	15.38	0.38
Insignia	5.75	0.00
Intuit	66.75	-0.88
Macromedia	40.06	3.44
Microsoft	98.69	-3.81
Novell	12.19	-0.44
Oracle	52.00	-2.13
Symantec	12.75	-0.81
STORAGE		
Conner	25.75	0.00
Iomega	18.63	2.50
Pinnacle	9.75	1.63
Quantum	17.13	-0.13
Seagate	65.25	-0.75
SyQuest	6.13	-1.38

	02.29.96 CLOSE	WEEKLY CHANGE
PERIPHERALS VENDORS		
AmeriQuest	0.75	0.00
Asanté	6.75	-0.25
Focus	4.13	-0.13
Global Village	16.38	0.50
HP	100.75	-2.38
QMS	5.13	-0.13
Radius	1.31	0.00
Shiva	83.75	1.25
Tektronix	45.38	-1.50
Truevision	6.00	0.50
DISTRIBUTORS		
CompUSA	40.00	1.50
IE	6.88	0.50
Merisel	2.69	0.13
Tech Data	15.13	0.50
INDUSTRY INDICATORS		
Compaq	50.63	-0.88
IBM	122.13	-2.13
Intel	58.81	-2.19
Motorola	54.50	-4.00
SGI	25.00	-2.75
NASDAQ	1100.05	-17.06

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.*

On-line this week

ZDNet The latest news on-line

Last week the Mac continued to edge into the Java mainstream. Netscape released a Java-enabled beta of Navigator 2.0, and Symantec debuted Caffeine, a free Java tool for its C++ development environment. Other stories on-line include an extended version of this week's Cyberdog beta test.

Seybold Show Daily

Couldn't make it to Boston last week? Check out our daily reports from Seybold Seminars Boston (http://www.zdnet.com/macweek/seybold_0296/index.html) for news from the show floor and special features on publishing issues.

Where to find us on-line

On CompuServe, you'll find the MacWEEK Forum at go zmc:macweek and the free MacWEEK News menu at go zmc:mwnews. On the Web, please visit our home page at http://www.zdnet.com/macweek/.

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Looking ahead

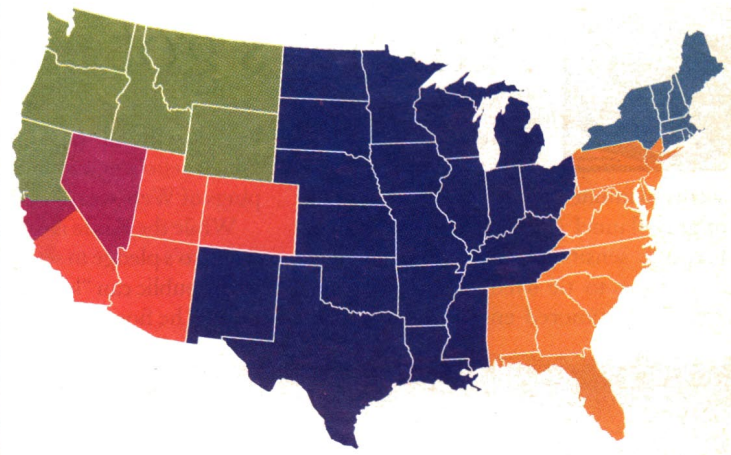
SOLUTIONS IN THE WORKS

We want to know the difficulties, successes and failures you've experienced in the areas defined below. Send your comments to solutions@macweek.com. Please include information on how to contact you.

- Photoshop users: Relate your experiences regarding what techniques you have used for Photoshop acceleration.
- If you have had to set up workgroup servers in a Macintosh environment (or even cross-platform) we'd like to hear about your experiences — positive or negative.

REVIEWS IN THE WORKS

- Symantec's Suitcase 3.0
- Powersoft's PowerBuilder for Mac
- Intuit's MacInTax and Block Financial's Kiplinger TaxCut



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[4] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo

[5] Includes Southern California south of San Luis Obispo, Arizona, Utah and Colorado

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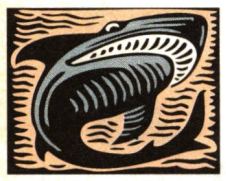

Amelio's got a brand-new bag

There's something about taking over Apple that seems to imbue even the most jaded avatar of gray-flannel America with a certain cyberpunk sensibility. Take John Sculley's conversion to tie-dyed T-shirts; Michael Spindler's rumored enthusiasm for black leather with all the trimmings; and, now, Gil Amelio's newfound taste for the trappings of Web-wear.

While the Knife is duly impressed by the maestro's pledge to set up his own Web site so the public can "learn about what's on my mind," he hopes Amelio's touchy-feely attitude will extend to some of the darker lacunae within the Apple corporate body.

In his first stage appearance as CEO at Seybold last week, Amelio was asked to comment on the condition of Spindler's erstwhile brainchild, the Worldwide Publishing Consortium. *El Jefe*'s response: "I don't really know, but it sounds like a good idea." Ironic denouement: At that moment, former WWPC Director Thad McIlroy was filing suit in a San Francisco court, accusing Apple of breach of contract for leaving the terminally illin' organization twisting gently in the breeze.

Voice of Cupertino

"But wait!" the Knife's esteemed readers may be asking. "Is Dr. Gil more than just a pretty face?" Happily, Web jockeys may soon get an answer, thanks to new voice capabilities in the works from Farallon. In the wake of its announcement of two Internet applets based on its Timbuktu remote-access software, Farallon is reportedly perusing competing Internet-based telephone offerings currently on the market and will soon pick a winner for Timbuktu integration.

Rear window

Back to the Web's influence on the world of fashion: Those seeking an object demonstration of the Internet's allure for cross-dressers everywhere need look no further than Microsoft's Internet Explorer for Mac. While the first beta seemed blatant enough about its platform orientation, featuring the flying Windows logo, Beta Two is even less closeted. The option that invokes the questionable animation now reads "Homage to Windows 95." The Knife can only hope that such miscegenation will be quashed in the coming Buchanan Era.

Walk on the Web site

Meanwhile, Bandai is choosing an alternative lifestyle for its Pippin mini-Mac. The product's new moniker, Pippin Atmark (as in @) Player, is intended to pledge allegiance to the Internet. To underscore its move from gaming to the Web, Bandai has licensed Java from Sun for use on the diminutive device.

Powerful drives

And speaking of technology that brings folks closer together: Microtech International, the Lazarus of drivedom, is due to resurface with some awesome new storage technology. The new product, which is slated to rear its head at NAB, will let multiple workstations access the same file on the same high-speed drive without requiring a network.

Too sexy

Attention all high-tech fashion plates stalking the digital catwalk: Leaf founder Bob Cassidy wants to bring down the cost of glamour shots with a snazzy digital camera priced at about $300. The camera, due by year-end, will borrow technology from Leaf's sinfully expensive camera systems and offer quality unparalleled in the $1,000-and-under range. Word is the box, which will capture live video and audio as well as 800-by-1,000-pixel images, will be marketed by a major camera manufacturer making its bat mitzvah in the realm of electronic imaging. □

Hey, Gil! You don't have to be Kate Moss to look good holding a MacWEEK mug. Belly up to the Knife's rumor line at (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.

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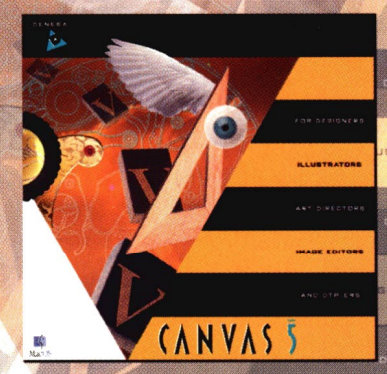

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